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THE STUDY OF SOCIETY

THE STUDY OF SOCIETY

METHODS AND PROBLEMS

Edited by
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PREFACE

There is to-day widespread recognition of the fact that the future of human civilization depends to a high degree upon Man's capacity to understand the forces and factors which control his own behaviour. Such understanding must be achieved, not only as regards individual conduct, but equally as regards the mass phenomena resulting from group contacts, which are becoming increasingly intimate and influential. Everyone pays lip-service to the vital necessity for a vigorous development of ' social science '. Yet when ardent investigators, not satisfied by general exhortation and advice, ask, " What shall we do ? " and " How shall we do it ? ", few serious attempts are made to answer them. This lack of detailed guidance is perhaps least marked in economics and in the field of vital statistics ; it is certainly most marked in the specifically human sciences of psychology, social anthropology, and sociology. Nowhere have these three sciences been properly mobilized to deal with the social problems which yearly grow more pressing.

In the summer of 1935 three members of the group responsible for this book met at Cambridge to discuss informally what steps could be taken to direct the application of the more reliable methods of psychology, anthropology, and sociology to a study of the problems of complex societies. Many plans were considered. Eventually it was decided to attempt to bring together a small number of psychologists, anthropologists, and sociologists who were known to be actively interested in the social implications of their respective fields of work.

It must be stated that no effort was made, then or later, to organize a large or completely representative group. The view adopted was that if genuine progress is to be achieved, free, frank, and exhaustive discussion and criticism are essential. Such a method can be adequately exploited only in a group small in numbers, all the members of which are closely interested in or engaged upon research in one of the branches of knowledge concerned.

The plan found a ready and eager response. A preliminary meeting was held in November, 1935, and the group has met for

discussion twice a year since. From the beginning it was agreed that the first and most urgent need was for a survey of existing methods, contributions, and problems, which might help prospective laboratory and field workers in complex societies in much the same way as *Notes and Queries on Anthropology*, first published by the British Association for the Advancement of Science in 1874, had assisted the field worker in anthropology. This was the idea which inspired the preparation of the present book.

The volume is addressed mainly to those who are engaged upon, or who wish to engage upon, social research, and who require to know what methods are already available, upon what established conclusions they may reasonably build, and what are some of the outstanding problems which might immediately repay further study. The employment of many of the methods described obviously demands specialized training. At the same time it is recognized that invaluable services can be rendered by persons who have had little opportunity to obtain technical instruction, and at various points in the book attempts have been made to indicate how the amateur investigator can best assist in the development of social studies.

Each chapter was first written by the group member whose name appears at its head. It was then duplicated and sent to all the other group members, so that it could be criticized and discussed at the next meeting of the group.[1] Indeed, the bulk of the contributions have been considered, revised, re-considered, and revised again, sometimes being redrafted three or four times. The criticism has been free and often drastic, but mainly constructive. Every member of the group has played a part in this discussion, and the volume is thus, in a literal sense, a co-operative product. While it would be too much to say that each statement made and each proposal put forward would receive the unqualified assent of the whole group membership, the contributions in their final form represent views concerning which a very substantial amount of agreement has been achieved. It is not infrequently said that when psychologists, anthropologists, or sociologists meet, little but disagreement emerges. This book may be regarded as a practical rebuttal of such a charge.

[1] Only in the case of Chapter IV was this procedure not adopted. For personal reasons Dr. Collins was unable to complete her contribution in time for duplication and group discussion.

An initial draft of the chapter on methods of assessing temperament was made by Dr. R. B. Cattell. Shortly afterwards, Dr. Cattell left this country to undertake work in America, and since it has been a principle of group procedure that alterations to contributions should be discussed directly between the author and the other group members, it was necessary to find another writer who could take over the task which Dr. Cattell had begun.

Any book of this kind must be highly selective. Not all methods and problems can be discussed, and only a few topics can be treated under each heading. It is therefore inevitable that the volume should appear to be somewhat discontinuous in parts and to suffer from certain striking omissions. The absence of any more than passing reference to the methods and problems of economics must not be held to imply a failure to recognize the important part played by economic factors and motives in human social behaviour. The group considered, however, that the social applications of economics had already been more widely discussed than those of psychology, sociology, and anthropology. We have also made no effort to describe fully the contributions which can be made by medicine or, indeed, any of the biological sciences other than the three chosen.

The group decided to confine its attention mainly to practical and methodological questions, and, with a few exceptions, fundamental general theories have not been mentioned or critically weighed. In particular, within the sphere of social psychology proper, we have not attempted to present or to evaluate the historical development of social theories which has taken place throughout the last 200 years, since David Hume brilliantly foresaw a " science of man " which " will not be inferior in certainty, and will be much superior in utility, to any other of human comprehension ". Hence no adequate account has been given of the work of the psychologists and sociologists who have expounded social theory. It is true that the relatively specific, detailed, and controlled methods of research with which this book is mainly concerned all demand a theoretical basis and justification, and that many of them have developed as a direct result of suggestions and conclusions presented in earlier and contemporary theoretical discussion. But to have attempted a reasonably complete historical survey would have carried the book beyond all convenient limits of size.

The greater part of the editorial work involved in the production

of this volume has been done by Dr. Lindgren, who has been particularly assisted by Sir Frederic Bartlett, Dr. Thouless, and Professor Ginsberg. The index has been compiled by Dr. Pickford. Dr. Vernon has undertaken the arrangements for the group meetings and has throughout acted as general secretary. Miss Esther Vernon-Jones has been responsible for the extremely important and difficult task of typing and circulating the majority of the contributions, as well as helping to check and complete references.

The first aim which the group has set itself is achieved ; there are many others. More specialized surveys are needed, and will be attempted. It is hoped to initiate, to aid in organizing and, if the opportunity offers, to carry out research upon many of the topics considered in the present volume, and upon others as well. The group as a whole, or any member of it, will be glad to receive and consider suggestions from intending field workers, trained or untrained, or from laboratory investigators, and in every possible way to assist in directing the rapidly growing world interest in the scientific study of society.

F. C. BARTLETT
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THE STUDY OF SOCIETY

PART I

SOME PROBLEMS OF SOCIAL PSYCHOLOGY

CHAPTER I

SOME PROBLEMS AND TOPICS OF CONTEMPORARY SOCIAL PSYCHOLOGY

By T. H. PEAR, M.A. B.Sc.,
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I. INTRODUCTION

Normal man is not a solitary animal. Most aspects of his experience and behaviour challenge the intelligent social psychologist in some way. For working purposes, however, it is reasonable to mark off certain types of problem and to label them individual and social psychology respectively, though the difference between them is one of accentuation rather than of material.[1] For example, the detailed study of colour, hearing, taste, smell, and bodily appetites is usually classified as individual psychology. Yet the total experience, of which one of the above-mentioned sensations may form the focal aspect, is often of social importance. Moreover, that social importance is greater to-day than two generations ago, because of the exploitation, by advertisement and propaganda, of those aspects of life.

In the present chapter rigid selection is inevitable, but collaborators will deal with some of the many problems which are not mentioned here. Since selection usually implies criticism, it may be said that the problems which have been chosen are regarded as especially important for psychological theory or practice. To select problems in order of urgency, as judged by the writer, is tempting, but must be resisted. Thus many readers may think that the most urgent practical problem for European social psychology at the moment is the furthering of friendly relations

[1] Cf. Chapter II for a fuller consideration of this distinction.

between nations, and that it should take precedence of all others. Yet to consider this problem satisfactorily from the social psychologist's point of view would involve all the aspects of social behaviour which it is the purpose of this chapter to illustrate.

There may be psychological reasons why certain social problems of undoubted importance have not, until recently, suggested themselves to psychologists. To discover them is itself an attractive psychological task. Let us mention a few of these avoided problems.

In England the implications of social stratification are taken so much for granted that only of late have psychologists begun to study them (59). Before the Great War, the idea of the inevitability of war seems to have been challenged by few psychologists other than William James, though many had exposed the ambiguity of the doctrine that " human nature never changes ". While K. Dunlap (17), G. van N. Dearborn (15), and J. C. Flügel (18) are distinguished exceptions to the rule that psychologists, as distinct from ethnologists, seem to have shown little interest in clothing, the psychological aspects of speaking are almost untouched, except by E. Sapir (55) and C. E. Seashore (56); yet speaking and clothing are not only two outstanding signs of personality, but in most countries have striking social importance,[1] as every dramatic producer and social climber knows.

Certainly one of the most important tasks of the social psychologist is to record, study, and explain the ways in which the desires, beliefs, and actions of individuals are influenced both directly and indirectly by propaganda, especially when it makes use of the press, the cinema, radio, and television, thereby creating a further set of problems in connection with each of these instruments of dissemination (1, 14, 19, 55, 28, 39). The varied uses, for purposes of propaganda, of the Coronation in England in 1937 would be a valuable subject for investigation.

Propaganda is often profitably used to sell articles of clothing or cosmetics, which alter the appearance of people, who buy them to increase the ' power ' of their personality; this again raises social problems. The vogue for striking personalities, fed by the cinema, radio, and the illustrated papers, is of great topical interest. For example, the success of many political and administrative leaders

[1] Cf. (47), where social taboos (pp. 171–5) and the social importance of speaking (chaps. 1, 2, 12, and 19) are described.

may depend upon the public acceptance of the idea that their personality and character are in some way outstanding. It seems not unfair to say that most psychologists have hitherto neglected these problems. Furthermore, though there has been much study of propaganda since the Great War, the results have not yet seriously affected the way in which psychological text-books are written.

Some account of relevant investigations will, however, be given in this chapter, and will show that the ' social psychology of everyday life ' (12) is at last being established.

It seems justifiable to classify our problems, provisionally, according to the methods used to attack them, which may be summarized thus :

1. *Unsystematic Observation*
   (*a*) By untrained persons.
   (*b*) By trained persons.
2. *Systematic Observation*
   (*a*) With the full knowledge of the subjects.
   (*b*) With the half-knowledge of the subjects.
   (*c*) Without the knowledge of the subjects.
3. *Self-Observation*

(*a*) Indicating likes and dislikes (e.g. by checking items on a list, with or without estimating their strength, or adding descriptive reasons).

(*b*) Attempting to give reasons for these preferences.[1]

(*c*) Procedures 3 (*a*) and (*b*) accompanied by attempts at self-analysis (e.g. when a radio listener records ' ambivalent ' attitudes of liking and disliking towards a ' thriller ', trashy music, a speech by a popular dignitary, or a sponsored advertisement programme).

Techniques used in all these studies are :

1. *The Interview* (cf. Chapters III, XI, XIII, and XV)
   (*a*) Genuinely casual and desultory.
   (*b*) Apparently casual, but with its form determined by the interviewer.
   (*c*) Obviously premeditated.

[1] The ' reasons ', when examined, sometimes prove to be ' rationalizations ' in the psycho-analytic sense.

2. *The Questionnaire* (cf. Chapter IX)

(*a*) Impersonally distributed and anonymously answered.
(*b*) Personally distributed and anonymously answered.
(*c*) Personally distributed and signed by the subject.
(*d*) Unobtrusively employed by the interviewer (who asks a series of set questions in an apparently casual manner and notes the answers in a special way).

3. *Tests* (cf. Chapters VII–X)

II. INVESTIGATIONS OF UNEMPLOYMENT

The widespread unemployment in many countries has exerted influences of a nature and extent which challenge psychological investigation. Any inquiry into the mental effects of continued unemployment will reveal changes in all the categories of experience and behaviour mentioned above.

A. THE MARIENTHAL INVESTIGATION [1]

A valuable and striking investigation was made on the unemployed of Marienthal, a village of 1,486 inhabitants not far from Vienna. The whole village had been unemployed for some three years, and the effects of unemployment were studied by a variety of methods (34). A team of investigators was sent out by the Industrial Research Institute of the Department of Psychology at Vienna University, and the inhabitants were approached through various agencies specially established by the investigators. Thus clothes were collected in Vienna and distributed in Marienthal; needlework and gymnastic classes were run; free medical and vocational advice were given (cf. Chapter XVI). In these ways it was possible to gather very detailed information about almost all the families in the village.

Many of the results of the study are of great importance and need to be followed up in other areas. Here we can merely give a brief indication of some of them.

Because of the extremely restricted bi-weekly income (dole), most housewives had detailed and rigid budgets; yet characteristically

[1] This section was written by Dr. Oeser.

irrational expenditure often occurred. Thus children got large meals on pay-day and starved later; a woman suddenly bought a pair of curling tongs instead of food; allotments were planted entirely with flowers. Nevertheless wants and interests had shrunk to a striking extent. Even the Christmas wishes of children were very modest ones, frequently expressed in the subjunctive: "If I *could* wish, I *would* like . . ." All conflicts were played out on the lower plane of individual quarrelsomeness, and debating and political clubs and institutions disappeared. Time lost its characteristic fixed points of reference, so that unpunctuality was the rule, even for meals. Of 100 men, 88 carried no watch. Very few newspapers and books were read. There was a far-reaching absence of any form of planning.

As was to be expected, the low income brought with it a great deterioration of health and of resistance to disease. The paralysing effect of unemployment was measured by classifying all families, according to a number of observational criteria, into those who were still unbroken and resistant to social degeneration, even if in despair; those who were resigned; and those who were broken, apathetic, no longer looked after their children or kept up appearances. The figures were: unbroken, 23 per cent; resigned, 69 per cent; broken, 8 per cent. It was clear that the last group would steadily grow as time went on.

B. INVESTIGATIONS AT GREENWICH AND DUNDEE

Before the Marienthal investigation, unemployment had never been studied so intensively or extensively by psychologists. However, an American investigator, E. W. Bakke, describes the mental attitudes of unemployed in Greenwich (6), and research by a team carried out in Dundee under the direction of O. A. Oeser is reported in Chapter XVI of the present book.

Of psychological interest and importance, too, is the work of H. L. Beales and R. S. Lambert, who arranged B.B.C. broadcasts on unemployment (7).

III. ATTITUDES

In America attention has recently been focussed upon 'attitudes' and attempts to measure them. Probably the most illuminating

contributions to this subject have been written by G. W. Allport, Hadley Cantril, and W. McDougall (38), the last-named having discussed the difficult question of the relation of attitudes to the affective life. The following section owes much to Allport's chapter on "Attitudes" in C. Murchison's *Handbook of Social Psychology* (42).

The relatively new concept of attitude is described by him as "probably the most distinctive and indispensable concept in contemporary American social psychology" (p. 798). Social psychology is even defined by some writers as the scientific study of attitudes. Attitude has come to signify many things; perhaps too many, for it may obscure highly significant differences between varieties of opinion and belief, and between the abstract qualities of character, as well as between sentiments and complexes.

Cantril proposes the following definition: "a more or less enduring state of readiness of mental organization which predisposes an individual to react in a characteristic way to any object or situation with which it is related."[1] General attitudes and quite specific attitudes certainly exist. Public and private, common and individual attitudes have also been distinguished, though in this field, as in the related field of sentiments, the wisdom of applying these adjectives to the attitudes or sentiments, rather than to the objects towards which they are directed, may be doubted.

Many attempts have been and are being made to 'measure' attitudes,[2] and in the next few pages only a few of these can be mentioned.

The simplest method for determining the prevalence of a given attitude (really, in this case, an *opinion*) in a certain community is by tabulating the answers to a questionnaire. This measures the range and distribution, but not the intensity, of individual or general opinion. The use of such a method is illustrated by a poll concerning pacifistic and militaristic attitudes, which was taken amongst 22,627 students in 70 American colleges; 39 per cent declared that they would participate in no war whatsoever, 33 per cent would take part only if the United States were invaded, and 28 per cent were ready to fight for any cause that might lead the nation to declare

[1] Cf. Chapter V, Section V.

[2] Cf. Allport, "Attitudes" (42), and Chapter IX, which discusses several related questions.

war. The objection that such a result expresses only 'verbal opinion', or a temporary attitude which might change under the pressure of propaganda or other influences, applies to many existing methods for determining the strength and nature of personal attitudes.

From a study of religious attitudes, Daniel Katz and F. H. Allport (29) concluded that students who feel maladjusted in respect of their religious faith tend to be those who are also worried and unsettled concerning their own personalities, i.e. that disorganization in one set of attitudes is likely to be accompanied by disorganization in another.

The use by E. S. Bogardus of the 'Social Distance' Scale (10) is well known. The subject is asked, for example, to indicate the degree of intimacy which he would willingly sanction between himself and members of various races. However, the distance between each of these degrees of intimacy is not necessarily comparable. Each higher degree of intimacy ought to imply all those that are lower; yet, in some instances, admission of a foreigner to neighbourly relations may be less distasteful than admitting him to one's occupation. The scale showed that the attitudes of Americans are most favourable towards Canadians, the English, and the Scots, less favourable to the Chinese, and least favourable to the Turks. But few of the subjects studied by means of the scale had ever known, or even seen, a Turk; history text-books and war atrocity stories explain this ready-made attitude. G. H. Green's investigation of the attitude of Welsh children towards the Chinese is also of interest here (23).

G. W. Allport considers that recent success in the measuring of attitudes is a major accomplishment of American social psychology; nevertheless he indicates its limitations [1]:—

(1) Measurement can deal only with common attitudes, and relatively few attitudes are common enough to be profitably scaled. By forcing attitudes into a scale, violence is done to the unique structure of man's mind.

(2) Each person possesses many contradictory attitudes. For this reason his reaction when he is filling up a form may not be persistent.

(3) Rationalization and deception inevitably occur, especially when the attitude studied pertains to the subject's moral life or

[1] Cf. Chapter IX.

social status. The difficulty of obtaining reliable information concerning attitudes towards sex is a case in point. Here anonymity is no guarantee. Lack of insight, ignorance, suspicion, fear, a neurotic sense of guilt, undue enthusiasm, or even a knowledge of the investigator's purpose, may invalidate an inquiry.

Since people are influenced greatly by both majority and expert opinion on social and political issues, the use of propaganda in establishing attitudes is important.[1] But in any case the inescapable fact remains that the process of signalizing the opinion which is supposed to characterize the attitude 'measured' is a special, rather unusual form of behaviour, involving a prescribed use of writing materials, towards a special type of imagined situation. Moreover, as is usual in this type of work, interest is seldom taken in the obviously psychological problem: what goes on in the individual's mind when an 'attitude' is aroused? Many who treated psycho-neurotic soldiers during the Great War will remember that some unusual and violently expressed attitudes towards the inhabitants of different countries, the Church, the Army, etc., were accompanied (and perhaps caused) by unusually vivid imagery, sometimes of a pseudo-hallucinatory or 'eidetic' character, illustrating some emotional episode. Other less unusual attitudes might have been 'carried by' words, and the difference between these types of attitude may be very significant. The genesis of individual attitudes is still a neglected field of investigation, except in the realm of sex, where the psycho-analysts have developed their characteristic approach.

An investigation which aimed at illuminating the mental processes underlying what some psychologists might term an 'attitude' was carried out by R. H. Thouless, who examined the tendency to certainty in religious belief (58). Subjects were asked to indicate the degree of certainty with which they assented to or dissented from a series of statements. Some of these were of a religious and some of a non-religious character. The object of the investigation was to discover how far empirical evidence could be obtained for the existence of a tendency, when accepting or rejecting religious propositions, to prefer high degrees of certainty.

The evidence provided strong confirmation of the view that there was such a tendency. This tendency was also found even in responses

[1] See Section V, A, below.

to more affectively neutral, non-religious propositions, although in these it appeared to be less strong. Statistical treatment was applied to the data to discover whether this tendency to certainty was related to orthodoxy of belief, intelligence, or sex. It was found to be equally strong amongst religious believers and unbelievers, suggesting the rarity of an attitude of scepticism even amongst those who reject orthodox religious beliefs. It was not stronger in one sex than the other, and did not seem to be correlated, either positively or negatively, with intelligence. The tendency to certainty as a principle in social psychology is stated by Thouless as follows: "When, in a group of persons, there are influences acting both in the direction of acceptance and of rejection of a belief, the result is not to make the majority adopt a low degree of conviction but to make some hold the belief with a high degree of conviction while others reject it also with a high degree of conviction" (p. 24).

From the consideration of attitudes and beliefs we may pass on to examine certain very powerful influences on their formation in contemporary life.

IV. RADIO, TELEVISION, AND THE CINEMA

A. RADIO

The great social importance of radio is no longer in doubt. When Chancellor Dolfuss was assassinated in 1934, the conspirators struggled hard to capture the station Radio-Wien, in which for a time a miniature battle raged. In this country, tens of thousands of people now read, in their morning newspaper, elaborations of crucial facts which they have heard tersely announced on the radio the night before. Since almost invariably the radio version is unaccompanied, while the newspaper version is accompanied, by comment, the social results of this advance warning may be far-reaching (44). Radio offers an almost perfect medium for propaganda, a theme which E. Hadamowsky develops in *Propaganda und Nationale Macht* (24). Its powers will be increased in certain directions, and possibly decreased in others, by television.[1] Every evening nowadays propaganda and counter-propaganda (3) oppose each other through the all-pervading ether, and the B.B.C. has often been urged to consider transmitting counter-propaganda in foreign

[1] See Section B, below.

languages. At the time of writing, however, it broadcasts only 'straight' news in other languages.

It is obvious that the habits, tastes, and preferences of radio listeners, so far as they are attributable to the programmes heard, are of great significance for social psychology, since, barring differences due to variations in reception, the programmes may be regarded as the same for all, and, most important in the present connection, available for very different social strata.

1. '*Listener Research*'

(*a*) *In America.* Many more data about what listeners think of broadcast programmes have been obtained in America than elsewhere. Incentives have been the general desire for greater popularity and a more effective public service; moreover, in the case of programmes sponsored by advertisers, the value of discovering the number of people who listen, their opinions, and their behaviour subsequent to listening, is obvious. These incentives have moved some of the broadcasting companies which allow advertising to carry out investigations.

F. H. Lumley's *Measurement in Radio* (35), published in 1934, gives a helpful estimate of the status of measurement methods at that time.

Broadcasters, or their employers, ask, "Is my programme effective?" This is ambiguous; it may mean, "Does the programme successfully educate, please, or motivate, and if so, in what direction?" When these aspects have been analysed out, listeners' preferences are surveyed, in order to count and to describe the listeners, to measure the effect of the programme upon them in terms of their change in attitude and of their ability to recollect the items heard, and, in the case of sponsored programmes, to discover whether the items advertised were subsequently bought, either once or repeatedly.

Among methods commonly used are the analysis of spontaneous or solicited mail-responses, direct inquiry through mail questionnaire, personal interviews (house-to-house and telephone), and observations and statistics of buying (4). For the general principles of measurement (sampling, attempts to ensure reliability, validity, and so forth) the reader is referred to Chapter IX, and to Lumley (35).

To the question, "Are people who volunteer letters to the broadcasting authorities typical of the whole community?" the

answer seems, from the American results, to be decidedly in the negative. It has been found that ' fan mail ' is heavily weighted by responses from the lower economic classes and semi-rural areas. People with higher incomes write only on special occasions. Lumley quotes the opinion of Will Durant and Cyril Burt, that most of the letters received after they had broadcast were from invalids, lonely people, the very aged, the very young, hero-worshippers, and mischievous children.

(*b*) *In Great Britain.* Lumley, basing his statement on the British Broadcasting Corporation's *Year Book* for 1932, concludes that this institution regards its letter-writers as " usually ordinary people ", and its programme correspondence as " symbolic or symptomatic ". A more serious kind of ' Listener Research ' has, however, now begun in England as well.

It is no doubt true that the policy of the B.B.C. is to give the listeners what it thinks they ought to hear and see, while in the U.S.A. the listeners get what they are believed to want themselves. The sociological, ethical, æsthetic, economic, and political aspects of this generalization are extremely important, but no more than an account of progress in ' Listener Research ' by the B.B.C. can be attempted here.

After having created a Public Relations Division, the B.B.C. set up in September, 1936, a specialized department of ' Listener Research ', and in the spring of 1937 began a series of studies of listeners' opinions concerning different types of programme. For this purpose the listening public was regarded as consisting of a series of separate publics for different types of programme, and an endeavour was made to find out how listeners regarded the types to which they were predisposed to listen. At first an experiment was made with the output of the Drama and ' Features ' departments. Three hundred and fifty listeners, whose only qualification was a known interest in this kind of broadcast, were asked to co-operate by answering questionnaires about each play or ' feature ' programme heard over a period of four months. The response was encouraging, and as a result the ' panel ' method is considered established as a technique applicable to programmes where the ordinary listener is capable of some degree of self-analysis. Later in 1937 the panel method was applied to series of talks on " The cinema " and " Clear thinking ".

An experiment of a different kind was made in connection with light entertainment programmes, for since it was known that they appealed to the widest possible public, they seemed unsuitable for the panel technique. The experiment was an attempt to give the organizers of light entertainment programmes a measure of listeners' opinion comparable with the box-office criterion which is available to theatrical managers. To achieve this result, two thousand listeners, chosen at random from forty-seven thousand [1] who volunteered to help, were sent, week by week, log-sheets which set out the forthcoming week's light entertainment programmes. Listeners receiving them were required merely to indicate which of the programmes they listened to, and how much of each they heard.

In a parallel experiment a control group was selected. From them the same information was collected by means of a personal approach, and the participators were not warned that the investigator was coming. It was hoped that the use of the control group would enable the Listener Research Department to find out how far those who had taken part in the main experiment increased their listening because they felt under an obligation to the B.B.C. to do so. The results of this investigation are not yet known.

A third experiment, now being organized, will use a short questionnaire about matters of fact, which the B.B.C. proposes to send out to three thousand licence-holders, taken at random. An endeavour will also be made to ascertain the status of the licence-holders responding, in order to discover whether those who do not respond are of particular types.

2. *Radio and the Individual Mind*

The social influence of radio upon the individual's mental life is interesting. Occasionally he may regard it as appealing to him as an isolated personality (as when a shy adult privately seeks education from radio-talks, thus avoiding the risk of appearing foolish in a public evening class). At the next moment it may address him with the powerful suggestion that he is one of a vast and united social group, as when the King speaks to the Empire on Christmas Day. Probably a practised radio speaker can consciously grade the amount of intimacy in tone, manner, and vocabulary.

The radio set acquires, therefore, a curious blend of personal

[1] This number is itself of sociological importance.

and impersonal characteristics. While some listeners praise, and some deplore, the alleged impersonality of the B.B.C. announcers, others distinguish with ease between the voices of the few men who broadcast regularly. Indeed the B.B.C., after many years' resistance, has now abandoned its attempt to maintain the impersonality of the announcers. Meanwhile, the search for ' radio personalities ' continues, and is, perhaps, most persistent among organizers of advertising programmes. They know the value of linking a sales-product with the idea of a striking personality, especially when the product is itself alleged to enhance the personal impression made by the purchaser. The fact that some radio personalities succeed in pleasing certain sections of the public, whereas others fail, suggests problems of social psychology, some of which have been attacked by H. Herzog (25), H. Cantril and G. W. Allport (11), and T. H. Pear (46).

B. TELEVISION

The advent of television will abolish some of the problems of ' sightless ' broadcasting, simplify others, and perhaps complicate still more. The social implications of television have, as yet, attracted little attention from psychologists, though something has been written on the subject by R. Arnheim (2) and Pear (49). Deserving of early consideration are [1] :—

(1) The possible effect of television in causing ' viewers ' deliberately to alter their own personality-characteristics. The cinema shows actors, specially trained, doing apparently natural things in an unnaturally perfect way. Television, which will lay stress on its ' actuality ' and immediacy (if only as a counterblast to its powerful rival, the cinema), presents not only actors, but ordinary people doing things naturally, and often not perfectly or beautifully, or at the most suitable dramatic moments. It may therefore alter all " screen-values ". Some of those who saw the film of the Coronation Service (1937) were disturbed by what they regarded as awkward gestures, because of an unconscious tendency to expect from the chief ' actors ' in the ceremony the smooth perfection of the trained film-star. The radio, in contrast, has now accustomed

[1] As this goes to press, television has been available on most days, for about two years, to ' viewers ' within about 25 to 50 miles of London.

listeners to hear hundreds of untrained voices, which never challenge comparison with those of the professional actor. By showing ' real ' people, television might increase social tolerance.

(2) The fact that the intimacy of the radio-voice (which at present is transmitted more faithfully by television apparatus, with its short-wave transmission, than by the ordinary radio-set) may be greatly increased in certain cases by the sight of the face and gestures of the speaker. This may strengthen the grip upon the public, even now very powerful, of certain dominating personalities. Comparison with the talking film is only a partial guide in considering such a possibility, since the film's lack of ' immediacy ' is to some a very grave defect. Both the intimacy and friendliness of the television-effect are possibly *sui generis*, and deserve special study.

(3) The fact that by means of television, happenings in social strata or geographical areas remote from the viewer can be ' brought over ', not merely ' depicted ', which constitutes a very real distinction. A bishop remarked recently that he could describe, but could not take his congregation to, the distressed areas. Television may take the distressed areas to his congregation.

(4) The possibility that " television will always prefer facts to ideas and the individual to the general ", as Arnheim (2) writes, without enthusiasm, judging television from the æsthetic standpoint. However, by means of description and commentary, which are now being brought to a high pitch of excellence, in different ways, by American and British commentators, the general significance of a series of individual facts can, and certainly will, be brought out.

(5) The fact that actual conversations and discussions between many kinds of people are likely to be a prominent feature in television programmes. The social effects of being able to ' see ', as well as to hear, such exchanges of opinion, which is in a sense equivalent to increasing enormously one's circle of acquaintances, may be considerable and rapid.

(6) The probable educational effects of television. Financial and other obstacles make it very difficult to produce an educational film of any considerable length, and, when it has been made, many cinema renters are reluctant to exhibit it. The cost of televising, say, an illustrated lecture, play, or discussion of educational value will be comparatively small.

C. THE CINEMA

The commercial and industrial importance of the cinema is enormous, especially in America, and it obviously exerts a great influence upon the time- and place-habits of millions of people. Yet the really vital social problems raised, first by its entry into civilization as a toy, and now by its grip upon the public as a weekly or bi-weekly ' necessity ', which some have compared to a drug, do not seem to have been widely formulated ; though it is unlikely that the cinema will escape " Mass-Observation " (28).

Why do people go to cinemas ? Possible motives are many. In a poor district the cinema may be visited merely to escape from home to warmth, semi-darkness, and music ; the tendency in America and England to make cinemas into ' palaces ' (sometimes at the expense of their acoustic properties), with gorgeously arrayed attendants, meets this need. The social groupings at the cinema offer a special problem, the complexity of which is seen by the comparative rarity with which an item appeals to the whole of the audience, composed as it is of isolated ones, twos, threes, and larger groups, some of which have usually entered during the progress of the film [1] and may therefore not understand the story. The fact that there are many couples belonging to opposite sexes is important, since before the days of the cinema they would probably have been at home, in the streets, or in the public-house ; it is, in fact, noticeable that proprietors of licensed houses and advertisers of alcoholic drinks have recently been making great efforts to attract young people. Thus sociological investigation into the ' accessory ' reasons for the popularity of the cinema might be useful, since television for the poor is not likely to develop soon, and may indeed suffer in comparison with the cinema if it must be ' viewed ' at home.

The most important psychological contribution to the subject of the cinema seems to be Arnheim's *Film* (1). Many other books, however, raise psychological issues, though seldom in psychological terms ; the chapters by well-known producers and critics in *For Filmgoers Only* (30) and P. Rotha's *The Film till Now* (54) certainly merit attention.

One question worthy of consideration is whether in this country

[1] A tendency reported from Germany to avoid this by ' re-packing ' everyone to the right several times during a performance, is worth studying both in its limited and wider significance.

the radio can be said, on the whole, to appeal to man's conscious rational self, and the cinema to his unconscious desires?[1] A cursory examination of posters outside cinemas and of the programmes in the *Radio Times* might appear to suggest that the answer should be in the affirmative. The practice of the B.B.C. in tending to apologize for offering 'thrillers' may be compared with the naked honesty of the cinema renter, with his "A" films.

The influence of the 'talkies' on our ways of speaking should be investigated (52). If it is true that the B.B.C. tends to direct the general standard of language to a more uniform level, announcers being picked with particular and consistent speech qualities in mind, are the 'talkies' tending to introduce into our everyday language numerous American words, phrases, and intonations?

The question of film and radio censorship—who imposes it, whether openly, semi-openly, or covertly, and along what lines—deserves study. Since the B.B.C. is often described as tending forcibly to educate the public, it is interesting to note the difficulties encountered by the makers and distributors of educational films. This is only partly due to the obvious vicious circle: few schools have suitable projectors, therefore few companies will make educational films. It has long been said that the public resents educational films, yet the recent success of at least one 'news theatre' seems to be due to the dissatisfaction of its patrons with the fare provided at the ordinary cinema. Since news theatres are cheaper than their competitors, however, and their programmes last for a period which can be fitted in with half a day's shopping or an hour's wait for a train (news theatres are apt to be near railway stations), the relevant facts are not easy to evaluate.

Other questions might be put in this form: "Is a low æsthetic standard expected of the cinema by the public?" "Is a high percentage of dullness and banality tolerated because of the accessory attractions?"

V. OTHER TOPICS

Being made up of cuttings from many possible sources, newsreels must be the result of selection, and selection is one of the first

[1] Cf. (30), p. 63.

principles of propaganda. This consideration applies even to the transmission of 'straight', but selected, news on the radio, and leads us to consider the general question of propaganda.

A. PROPAGANDA

To trace the changes in connotation of the word 'propaganda' in the mind of the average man from, say, 1913 to the present day, might contribute something of value to the social psychology of everyday life. A very early meaning was 'missionary enterprise' in the strict sense of that word.[1]

At the beginning of the Great War the British Government had a Department of Propaganda, later designated Counter-Propaganda, the new title suggesting defence rather than attack. Even now some countries use the word openly, as in the title 'Minister of Enlightenment and Propaganda'. Since the Great War there have been two periods, the first being that of so-called 'de-bunking', in which the books of Walter Lippman, Lasswell, Ponsonby, and Lumley played a great part. They exposed the suppression, fabrication, and distortion of news which formed part of the combatant activities of all the contending powers. In the next, including the contemporary, period, the main interest has shifted towards a dispassionate study of the actual conditions of successful and unsuccessful propaganda.

Most aspects of the problems involved are discussed by Doob (16). He disagrees with the attempt to identify education with the true, and propaganda with the untrue. Reminding us that propaganda may be unintentional, he proposes the following definition of intentional propaganda: "a systematic attempt by an interested individual (or individuals) to control the attitudes of groups of individuals, through the use of suggestion and, consequently, to control their actions" (p. 89). Doob treats in detail modern developments of propaganda, such as radio-advertising and the Public Relations Departments in our large-scale social patterns.

A certain amount of experimental investigation has been carried out[2] by W. W. Biddle (8, 9), W. K.-C. Chen (13), and others.

[1] It may illustrate the change in the meaning of this term to record that about five years ago an academic committee showed annoyance when told that the Student Christian Movement was carrying on propaganda.

[2] It is impossible even to summarize this work here, but an extensive account is given in (43), p. 979.

In an experimental attempt to alter attitudes towards the political problems of Manchuria, Chen obtained large and measurable results, even with 'neutral' oral propaganda. The relative effectiveness of different modes of presentation, styled respectively 'academic', 'exhibitionistic', and 'conversational', have been studied experimentally.

It must be remembered, however, that in actual life propaganda is often accompanied by 'prestige' factors: processions, mass-meetings, uniforms, religious or academic symbols, vestments, special ways of speaking, and the actual presence of royal, highly born, or famous persons, or their coloured portraits on large, obviously expensive posters. The place in which the message is heard, whether cathedral, public square, stadium, or trade-union hall, also has a suggestive effect. Experiment of the usual kind omits all these factors, even the impressive way of speaking.

In order that techniques should be really effective (43) in the experimental modification of attitudes the following points should therefore be taken into consideration:—

(1) The method should involve vivid experience.

(2) There should be neither strong counter-influences, nor opportunity to become familiar with the complexities of, or the objections to, the point of view being advanced.

(3) The method should use individuals, groups, institutions or symbols thereof, which have prestige value for those whose attitudes are to be affected.

B. WAR

In modern conditions, warfare is likely to be conducted against people whom the fighter often cannot see or hear. Thus there can be few reasons for personal hatred, and propaganda becomes indispensable. Freud's psycho-analytic views on the causes of war, proposed late in his psychological scheme, have been expounded rather uncritically by his followers, e.g. by E. Glover (21, 22), who has not answered the criticisms advanced by M. Ginsberg (20). Those who regard economic factors as a primary cause of modern warfare view with some scepticism the tendency to consider belligerency, except in political leaders and the leisured classes, as primarily a subject for psychiatrical treatment.

At the moment, no psychological investigation into war seems

satisfactory. " Attitude scales " are better than nothing, yet one cannot free oneself from a suspicion that their users have often been insufficiently careful in discriminating between the terms used (cf. Chapter IX). For instance, in one attitude scale the subjects were required to say whether in certain circumstances they would accept or evade military service. There is another possibility, that of resisting it, and it would be as absurd to ask a Quaker if in the event of war he would evade service, as it would be impertinent to assume that the Pope ' evades ' marriage. Not only does such ambiguity make the results, even if honestly given, difficult to score, but it may create a confusion in the imagined situation presented to an intelligent person who is attempting to deal with the scale.

Opinions discovered by the psycho-analyst may be criticized on the ground that they are often unusual opinions, of a type peculiarly difficult to express in words, and that they have been obtained from psycho-neurotic patients. Moreover, since psycho-analysis is apt to be lengthy and costly, a large proportion of the clinical data obtained is likely to come from the examination of relatively rich patients, some of whom may belong to a stratum of society in which military service is regarded as a normal career. For this reason, until psycho-analytic observations upon many different social strata have been obtained, it is possible to believe that the " aggressiveness " described by the psycho-analyst may be less intense in patients of a different social order, and in people who do not resort to psychotherapy.

C. CONVERSATION

Of all the patterns of social behaviour which we know, one of the most subtle and effective is conversation, and its study should form a large part of any adequate social psychology. Sampling methods have already been used. H. T. Moore (41) recorded conversations heard on Broadway, New York, each evening as he walked through the theatre district. He classified them under the headings " man to man ", " woman to woman ", and " man to woman ", and discovered the chief topics within each of these groups. One finding was that the women tended to adapt their conversations with men to subjects which chiefly interested the men.

M. H. Landis and H. E. Burtt (33) made a similar study at Columbus, Ohio, in the College, in tramcars, hotel lobbies, shops,

and other public places. The greater interest of women in persons was apparent: 37 per cent of the women's, but only 16 per cent of the men's conversations were about persons. C. Landis (32) listened to English conversations in Regent Street and Oxford Street, London. He reports that in these exchanges the Englishman tended to adapt the conversation to interest the woman present. If differences of this kind were established for particular sections of society, comparable in respects other than that of nationality, and proved to be connected with nationality differences, they would be very suggestive. The comparability of the American and English groups in question is, however, not proved.

The talkativeness of different children in different social situations has been studied by D. A. McCarthy (37), who followed up J. Piaget's (53) study of language in small children. S. Isaacs's (26) studies of social development in young children are based largely on recorded conversations.

Pear (48, 51,) has questioned the adequacy of most so-called 'linguistic tests' and the soundness of the foundations of a concept like 'verbality', since speaking which is socially important usually takes the form of conversation, and those who have drawn up linguistic tests seem to have been guided by a narrow view of language as a 'system of habits'. With R. H. Manson (36) he investigated the testimony of conversation, using a specially prepared gramophone record of opposed opinions, expressed by a man and a woman, upon the relative merits of silent and talking films, a subject which aroused much interest in listeners to the record.

REFERENCES

(1) Arnheim, R., *Film* (trans. L. M. Sieveking and I. F. D. Morrow). London: Faber and Faber, 1933. pp. 300.
(2) Arnheim, R., *Radio* (trans. M. Ludwig and H. Read). London: Faber and Faber, 1936. pp. 296.
(3) Atkinson, C. F., *Broadcasting and Peace.* Paris: Intern. Inst. of Intellectual Co-operation, 1933, 57–95.
(4) Baily, K., "Radio's secret service," *Radio Pictorial,* 22.x.37, 197, 7 and 36.
(5) Baily, K., "Can radio bring world peace?" *Radio Pictorial,* 5.xi.37, 199, 5 and 32.
(6) Bakke, E. W., *The Unemployed Man.* London: Nisbet, 1933. pp. 308.
(7) Beales, H. L., and Lambert, R. S. (ed.), *Memoirs of the Unemployed.* London: Gollancz, 1934. pp. 287.

(8) Biddle, W. W., " A psychological definition of propaganda," *J. Abn. Soc. Psychol.*, 1931, xxvi, 283–295.
(9) Biddle, W. W., " Propaganda and education," *Columbia Univ. Teach. Coll. Contr. Educ.*, 1932, No. 521. pp. 84.
(10) Bogardus, E. S., " Social distance and its origins," *J. Appl. Sociol.*, 1925, ix, 216–226.
(11) Cantril, H., and Allport, G. W., *The Psychology of Radio*. New York: Harpers, 1935. pp. 272.
(12) Cantril, H., " The social psychology of everyday life," *Psychol. Bull.*, 1934, xxxi, 5, 297–330.
(13) Chen, W. K.-C., " The influence of oral propaganda material upon students' attitudes," *Arch. Psychol.*, 1933, xxiii, No. 150 (quoted from Doob (16)).
(14) Cummings, A. J., *The Press and a Changing Civilization*. London: Lane, 1936. pp. 133.
(15) Dearborn, G. van N., " The psychology of clothing," *Psychol. Mon.*, 1918, xxvi, 1, No. 112, 1–72.
(16) Doob, L. W., *Propaganda, its Psychology and Technique*. New York: Holt, 1935. pp. 424.
(17) Dunlap, K., " The development and function of clothing," *J. Gen. Psychol.*, 1928, i, 64–78.
(18) Flugel, J. C., *The Psychology of Clothes*. London: Hogarth Press, 1930. pp. 257.
(19) Fyfe, H., *Press Parade*. London: Watts, 1936. pp. 154.
(20) Ginsberg, M., and Glover, E., " A symposium on the psychology of peace and war," *Brit. J. Med. Psychol.*, 1934, xiv, 274–293.
(21) Glover, E., *The Dangers of Being Human*. London: Allen and Unwin, 1936. pp. 206.
(22) Glover, E., *War, Sadism, and Pacifism*. London: Allen and Unwin, 1933. pp. 148.
(23) Green, G. H., " Racial prejudice in children of school age," *IX Intern. Congr. Psychol.*, 1929. Princeton, New Jersey: The Psychological Review Co., 1930, 192–3.
(24) Hadamowsky, E., *Propaganda und. Nationale Macht*. Oldenburg: Stalling, 1933. pp. 354.
(25) Herzog, H., " Stimme und Persönlichkeit," *Zsch. f. Psychol.*, 1933, cxxx, 300–369.
(26) Isaacs, S., *Social Development in Young Children*. London: Routledge, 1933. pp. 480.
(27) Jahoda, M., " Some ideas on social and psychological research," *Sociol. Review*, 1938, xxx, 1, 63–80.
(28) Jennings, H., and Madge, C. (ed.), *May the Twelfth : Mass-Observation Day-Surveys*, 1937. London: Faber and Faber, 1937. pp. 431.
(29) Katz, D., and Allport, F. H., *Students' Attitudes*. Syracuse, N.Y.: Craftsman Press, 1931. pp. 408.
(30) Lambert, R. S. (ed.), *For Filmgoers Only*. London: Faber and Faber, 1934. pp. 98.
(31) Lambert, R. S., *Propaganda*. London: Nelson, 1938. pp. 162.

(32) Landis, C., "National differences in conversation," *J. Abn. Soc. Psychol.*, 1927, xxi, 354–7.
(33) Landis, M. H., and Burtt, H. E., "A study of conversations," *J. Comp. Psychol.*, 1924, iv, 81–89.
(34) Lazarsfeld-Jahoda, M., and Zeisl, H., *Die Arbeitslosen von Marienthal.* Leipzig: Hirzel, 1933. pp. 123.
(35) Lumley, F. H., *Measurement in Radio.* Columbus, Ohio: Ohio State University Press, 1934. pp. 318.
(36) Manson, R. H., and Pear, T. H., "The testimony of conversation," *Brit. J. Psychol.*, 1936–7, xxvii, 3, 277–291.
(37) McCarthy, D. A., *The Language Development of the Pre-School Child.* Minneapolis: University of Minnesota Press, 1930. pp. 174.
(38) McDougall, W., "Organization of the affective life; a critical survey," *Acta Psychologica*, 1937, ii, 3, 233–346.
(39) Martin, Kingsley, *The Magic of Monarchy.* London: Nelson, 1937. pp. 104.
(40) Matheson, H., *Broadcasting.* London: Thornton Butterworth, 1933. pp. 253.
(41) Moore, H. T., "Further data concerning sex differences," *J. Abn. Soc. Psychol.*, 1922, xvii, 210–214.
(42) Murchison, C. (ed.), *A Handbook of Social Psychology.* Worcester, Mass.: Clark University Press, 1935. pp. 1195.
(43) Murphy, G., Murphy, L. B., and Newcomb, T. M., *Experimental Social Psychology.* New York: Harper, 1937. pp. 1121.
(44) "News and Views," *The Listener*, 20.x.37, 832.
(45) Oeser, O. A., "Methods and assumptions of field work in social psychology," *Brit. J. Psychol.*, 1937, xxvii, 4, 343–363.
(46) Pear, T. H., *Voice and Personality.* London: Chapman and Hall, 1931. pp. 247.
(47) Pear, T. H., *The Psychology of Effective Speaking.* London: Kegan Paul, 1933. pp. 232.
(48) Pear, T. H., "Are linguistic tests adequate?" *Brit. J. Psychol.*, 1934–5, xxv, 1, 55–62.
(49) Pear, T. H., "The mental effects of television," *The Listener*, 1936, xvi, No. 408, 837–8, No. 409, 888, No. 410, 935.
(50) Pear, T. H., *Religion and Contemporary Psychology.* London: Oxford University Press, 1937. pp. 51.
(51) Pear, T. H., *The Maturing Mind.* London: Nelson, 1938. pp. 152.
(52) Pear, T. H., "The delicate ear," *Radio Times*, 2.xii.38, cxi, No. 792, 12.
(53) Piaget, J., *The Language and Thought of the Child* (trans. M. Warden). London: Kegan Paul, 1926. pp. 246.
(54) Rotha, P., *The Film Till Now.* London: Jonathan Cape, 1930. pp. 362.
(55) Sapir, E., "Speech as a personality trait," *Amer. J. Sociol.*, 1926–7, xxiii, 892–905.
(56) Seashore, C. E., chap. in *A History of Psychology in Autobiography* (ed. C. Murchison). London: Humphrey Milford, 1930. i, 225–297.
(57) Thomson, D. C., *Radio is Changing Us.* London: Watts, 1937. pp. 143.

(58) Thouless, R. H., " The tendency to certainty in religious belief," *Brit. J. Psychol.*, 1935–6, xxvi, 16–31.
(59) Thouless, R. H., " The stratification of social classes in modern society," *The Human Factor*, 1937, xi, 310–316.
(60) Thouless, R. H., *General and Social Psychology*, 2nd. ed. London: University Tutorial Press, 1937. pp. 522.

SUGGESTIONS FOR GENERAL READING

Arnheim (1, 2), Cantril and Allport (11), Doob (16), Hadamowsky (24), Lazarsfeld-Jahoda and Zeisl (34), Murchison (42), Murphy, Murphy and Newcomb (43).

CHAPTER II

SUGGESTIONS FOR RESEARCH IN SOCIAL PSYCHOLOGY

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I. INTRODUCTION

Anyone who reads the various sections of this book will be prepared to accept the view that the greatest need of social psychology at the present time is for more and better research. To further this, informed and expert criticism of existing methods and the development of more scientifically controlled ways of experiment and observation are indispensable. At the same time there is little use in devising and applying methods merely or mainly because they are likely to yield results readily. Methods must always be planned with some reasonably well-defined problem in mind.

The selection of realistic social problems suitable for psychological study demands some preliminary collection and sorting of facts and, provided certain elementary precautions are observed, much of the preliminary collection can be carried out by intelligent observers who have not received any special psychological training. The methods which such observers are bound to use, however, must undergo further refinement and improvement before final solutions can be achieved. To criticize and develop methods of observation and experiment bearing on social problems are tasks for the trained psychologist, both in and out of the laboratory.

In this section a number of problems which may at once be made objects of fruitful research will be described. I shall first consider problems for the psychologist who is working in the laboratory;

then problems for the psychologist in the field, and finally problems towards the further definition of which persons who have not necessarily received any specific training in psychology may nevertheless make important contributions.

Of necessity all the topics chosen must be regarded as highly selected. The field is a very wide one and within it there is lamentably little that can be regarded as finally or exactly established. I have been guided in my selection by two main considerations. I have tried, first, to single out problems fairly near to the present growing-points of the subject, and secondly, to suggest lines of research which appear susceptible of immediate attack, with a real promise of important issue. Many possible and equally significant objects of research are dealt with in other chapters of this book.

In particular, there are a number of suggestions in Chapter I which may appear far more realistic, and directly in line with social problems that are generally regarded as important, than the topics with which I shall be mainly concerned. I have, however, addressed myself largely to the psychologically trained research worker, partly because I think that far too often—and unnecessarily—the walls of the laboratory are treated as a means of retirement from the clamour of the outside world, and partly because I am profoundly convinced that the laboratory psychologist has a contribution to make to the methodology of social studies of much greater significance than is commonly realized. But I would be one of the first to agree that the more direct methods of field observation and investigation should also be fully exploited.

II. LABORATORY PROBLEMS OF SOCIAL INTEREST

One thing is so immediately obvious that it hardly needs to be said. It is rarely if ever possible to obtain results from controlled laboratory investigations which are immediately valid and important in the field of social psychology. Sometimes it may be possible to organize groups of subjects in a specific manner, to observe experimentally controlled reactions within the group, and then to observe and compare the reactions set up by the same stimuli outside the group. Suggestions for this kind of work may be found in G. Murphy, L. B. Murphy, and T. M. Newcomb (24),

M. Sherif (32), H. Gurnee (13), and elsewhere. But there are very severe limits to this kind of approach, and even where it is possible it can rarely deal with cases in which reactions that stir any very deep-seated social motives and tendencies are concerned.

The primary problem for the laboratory psychologist interested in social psychology is, not that he should at present try to investigate admittedly important facts *in* any wide social setting, but that he should try to devise the most exact methods possible for an investigation of facts which have a definite social application. These methods he must then hand on to the field psychologist, who will use them as faithfully as he can, not hesitating to introduce modifications if necessary, though with as little departure as possible from whatever exactness of control the laboratory has been able to achieve. With these considerations in mind the following topics have been selected for discussion.

A. PROBLEMS CONCERNING INTERESTS AND TEMPERAMENT

Contemporary methods of investigating interests and temperament by means of inventories, ratings, and questionnaires are discussed in Chapters IX and X, and nothing further will be said about them here. A broad methodological distinction between ' test ' and ' experiment ' must be made. A test applies some specially devised situation in such a way that behaviour within this situation may be made the basis of a prediction of behaviour in other, related situations. An experiment applies specifically controlled situations (groups of stimuli) with the object of demonstrating what are the conditions of the resulting reactions *within* these situations.

Applied to problems of interest and temperament, the direct concern of the experimental approach is, not to answer any such questions as, " What are the socially important human interests or varieties of temperament ? " or " How are particular interests and temperamental properties distributed throughout specific social groups ? " The first type of question cannot very well be dealt with in the laboratory because it is obviously impossible to stage, and yet keep under experimental conditions, any situation involving extensive social relationships, or raising practical social issues in the ways in which they are raised in everyday affairs.

The second type of question obviously demands a test rather than an experimental approach. In order to answer it a very large number of people must usually be examined, and the method of investigation must be fairly rapid. On the other hand, questions which can be asked and partially, at least, answered in the laboratory are, for example: "What specific conditions normally arouse the expression of interests and temperamental properties?" and "According to what principles, if any, do interests and temperamental properties combine to affect behaviour?"

In order to devise any method of experimental approach to these questions it is necessary to use some fairly simple working definitions. An interest may be described as a preferential reaction towards certain stimuli, or objects, or topics, and a temperamental property as a preferential *way* of reacting towards a considerable variety of stimuli, objects, or topics. We say a man is interested in colours, or stamps, or mathematics, meaning that if stimuli, or objects, or topics of this kind are presented to him, together with others, he will usually be found dealing with those mentioned. We say a man is temperamentally timid, or hesitating, or dogmatic, or optimistic, meaning that if almost any stimuli, or objects, or topics are presented he will be found to be dealing with them, if at all, in these ways.

Three lines of approach could be profitably explored experimentally in a study of the conditions and effects of 'preferential reactions'.

1. *A Study of Problems Arising from the Use of the Psycho-Physical Methods*

In the early days of experimental psychology much ingenuity was displayed in developing the psycho-physical methods. The main aim was to try to establish correlative variations between physical stimuli, as measured by physical methods, and some simple form of sensorial or perceptual reaction. In particular it was hoped to find formulæ expressing an exact quantitative relationship between such variations, and to ascertain the limits of application of these formulæ. In various ways the investigators of those times found their hopes balked by disturbing influences; but whenever this occurred they were prone to regard these disturbing influences as hindrances to be controlled or removed, so that ultimately they

would be able to express variations of a reaction of some particular kind entirely in terms of consistent correlative variations in the stimuli used.

An instance can be found in the investigation of ' equal-appearing intervals '. One of the problems was to take two stimuli, S_1 and S_2, of the same mode but varying in amount, and to try to find a third stimulus value S_m, so related to the other two that the interval $S_1 \sim S_m$ appeared equal to the interval $S_m \sim S_2$, interval being defined, of course, in any appropriate terms. It was very soon noticed that in this situation some subjects persistently treated S_1 as a very weak stimulus, and therefore selected a value of S_m which lay nearer to S_1 than it should, according to the Weber principle. Other subjects as persistently treated S_m in the same manner, and so displaced the intermediate S_m in the direction of S_2. Both of these cases were treated as a form of " absolute impression " and put into the general class of disturbing conditions to be got rid of. G. E. Müller, indeed, seemed to be on the brink of maintaining that here was a problem well worth studying for its own sake. He gave the reactions special names, calling the first " positive type of reaction to S_m " and the second " negative type of reaction to S_m ". Nothing more was done in that direction, however; instead, ingenious care was taken to avoid or to counteract these complicating conditions.

The truth is that these are persistent preferential reactions of a type very readily set up and easily studied when psycho-physical methods are being used. In this case they are preferential reactions set up towards particular forms of stimuli and could be treated as a kind of *interest*. But in other cases the preferences are clearly of a *temperamental* kind. For example, all the early investigators who were attempting to study simple reactions to difference, or to equality, noticed that some subjects persistently have a high percentage of indecisive, doubtful, hesitating responses, and some, as persistently, very few of them. Again various devices were tried to eliminate these indecisive responses, or to treat them statistically so as to include them in some form of decisive response, in order that eventually a formulation could be found which expressed a direct relationship between stimulus properties and response properties narrowly defined as responses to difference or to equality. This kind of preferential reaction marked, not a persistent preference

for certain kinds of stimuli, but a preferential manner of dealing with all kinds of stimuli.

Laboratory psychologists should now re-study the psycho-physical methods and the results of their application, not mainly with the purpose of stating in mathematical terms some principle according to which quantitative variations of stimuli are related to coincident variations of reaction, but as embodying an effective, simple, and controlled technique for investigating some of the conditions determining preferential responses and for studying the effects of their combination. I have indicated one case already in which consistent preferential reactions are very likely to arise, and to differ in direction from individual to individual, with regard to the position of one variable in relation to others in a series. Many other illustrations may be found in some of the classical contributions to psycho-physics.[1]

The method of regular descent, for example, can be shown to produce consistent, but different, responses in different observers, differences traceable to the fact that the method employed sets up differing attitudes towards the same experimental situation.[2] These attitudes result in reactions variously called 'hesitating', 'confident,' 'certain,' 'expectant,' 'critical,' or 'foreseeing', terms which, when they are used in everyday life, are always treated as having a close relation to temperamental endowment. Similarly, while some observers, set to work on an absolute threshold experiment, consistently prefer to have all the variables closely clustered around the threshold and few in number, others prefer more, and more widely separated, variables. Or again, a particular *method* of presentation in series may be persistently treated as unfavourable by a given subject, while a particular quality or *kind* of stimulus may be as persistently treated as favourable.[3]

Here is a controlled technique offering a wide field of variation, both as to method and as to material, which can be used to set up a considerable variety of preferential reactions in such a way that the conditions of their production in individual instances may be studied closely. Further, some of the preferences are preferences

[1] See especially Fröbes (11) and Müller (24), and the references given in these works.

[2] See Fernberger (10), and Smith and Bartlett (33).

[3] Cf., e.g., Oeser (28) on preferences for colour or form.

for material, and thus more allied to interests, while some are for modes of reacting more allied to temperament. The preferences can be aroused so as to reinforce one another (as when a preferred method of presentation is used with a preferred type of material), or to compete with one another (as when something which normally produces a decisive response is presented in a manner which normally gives rise to hesitation, criticism, distrust, or timidity), in order to study the effects of combining preferential reactions.

It may be said that the preferences set up in the type of experiment contemplated are trivial, unimportant, and remote from those which are the main concern of social psychology. But there are three answers to this objection. The first is that the types of reactions specified—hesitation, certainty, timidity, and the like—have many forms of social expression, and the discovery of relatively controlled ways of studying what fundamental conditions evoke them is therefore of value. The second is that character and temperament qualities almost certainly have their characteristic groupings; if the principles of grouping can be understood in the more trivial instances, we can look the more surely for those that operate in contexts of greater social importance. The third, and I think the most significant answer, is that the parallels suggest that the general character of the conditions which arouse preferential reactions, the effects of the reactions once aroused, and especially the principles of their combination, may well remain relatively constant whatever the level of their expression. It is probable, for instance, that a careful experimental study of visual adaptation may throw light on the more complex central nervous mechanism of auditory adaptation, and that both may have very important identities, as regards their conditions and results, with that vastly more complicated psychological adaptation which comes into play in the social and economic field, when questions arise such as that of the continued effects of unvarying rewards.

2. *A Study of the Phenomena of Conditioning, Deconditioning, Inhibition, and Adaptation*

Some of the general psychological problems that arise under this heading have been pointed out by R. C. Oldfield (29). I. P. Pavlov

(29) connected certain typical inhibitory behaviour with broad temperamental differences, and there are suggestions, e.g. by A. F. Rawdon-Smith (31) and G. C. Drew (7), that his view may well be capable of development and extension. It is not maintained that the differential preference reactions which can be set up and observed in these experiments have a direct and obvious social *importance*, but that the principles of their establishment and operation may remain relatively constant, in spite of a shift of setting to some form of important social organization.

3. *Re-oriented Studies of the Effects of Various Kinds of Drugs*

From our present point of view, a mere description of the kinds of reaction set up by a drug is of little interest, with the possible exception of certain drugs of wide addiction, and even in the case of those drugs it is in no sense a final aim. But drugs may affect human behaviour in various specific ways, and we can look for analogies between their effects and similar ones which appear to be produced by special social circumstances.

A working hypothesis useful in this case is the one based on a broad notion of 'levels of behaviour'. A drug may 'raise' or 'lower' the level of response, exaggerating certain characters of response, or producing some which ordinarily are not achieved at all. The important thing, from this point of view, is not to inquire what happens, but the principles according to which it happens; i.e. if the reaction level is said to be raised is there some new synthesis of existing characters, and if it is lowered is there a literal return to the uncontrolled functioning of earlier tendencies? In social psychology, at the present time, it is often necessary to work with rather broad possibilities in mind. An interesting one is that different social conditions may set up different levels of behaviour. The principles governing change from one level to another may, in this instance also, be far more consistent than the particular details of individual cases, and a study of the operation of those principles in simpler and more controlled instances may give clues to the best method for their investigation in more complicated ones. Further, since the earlier organized research on drugs was completed, great advances have been made in the technique for study, and in knowledge of the more delicately balanced "higher

mental processes"[1] of perceiving, recognizing, recalling, and, though to a lesser extent, thinking. Experiments dealing with these should replace the rather fruitless type of work with simple motor reactions and reaction-times, and with the learning of nonsense syllables.

The examples given all illustrate ways in which the study of preferential reactions, and of changes in preferential reactions, which are at the basis of interests and temperament, could be approached.

B. PROBLEMS OF OBSERVATIONAL RELIABILITY AND WEIGHTING

An important group of problems demanding collaboration between the laboratory and the field worker are those which concern observational reliability and weighting. I have discussed some of them elsewhere, in relation to anthropological field work (2).

When any social problem is studied under field conditions, there are usually so many relevant facts to be observed that no single student can hope to cover all the ground. He will be forced to select; but we know very little, with any exactitude, about what principles commonly influence the selection of the facts or events observed and recorded in complex situations, or about how the main types of principles affect the observations and records that are achieved. Where circumstances compel a single observer to cover as much of the ground as possible, it is certain that his observational processes will attain varying degrees of efficiency in different directions, and also that observers rarely know or care much about these variations. When, as often happens, the investigator has to rely upon a number of different informants, these same questions become even more important. Good faith cannot, unfortunately, be taken as a sufficient criterion of reliable observation and report, and for the degree of reliability to be evaluated only by the intuition of the investigator, though it is now the custom, is more optimistic than satisfactory.[2]

Two lines of approach to the problems involved are required: a *test* approach and an *experimental* approach.

A test approach implies the development of a technique for the prognosis of efficiency of observation and report in all the main

[1] Cf. McFarland (21, 22, 23).

[2] Cf. Lindgren (20).

divisions of experience upon which these can be based, e.g. by comparison of visual with auditory, and of both with combined visuo-auditory efficiency.

An experimental approach implies the study of the principles and conditions of operation of the common mental processes of perceiving, recognizing, recalling, and thinking, when these are occupied, not with the simple and abstract content usually supplied to them in the laboratory, but with more concrete material in wider settings. This can be done without relinquishing the experimental method or ideal. Moreover, research must build upon the mass of well-attested knowledge that has already been acquired concerning the principles of these mental processes in simpler and more abstract contexts. For example, it is known that the upper parts of visually presented objects are normally the most effective in perceptual process,[1] and that when familiar incomplete, and familiar complete, material is presented in series for observation and recall, the former type is consistently more impressive than the latter.[2]

The experimentalist will begin his study of wider and more realistic settings with these and other principles in mind, and will try to see how, if at all, they are modified in new circumstances, and how they and other conditions predispose all normal observers towards particular efficiencies and inefficiencies of observation and report. If we could know more accurately the conditions which tend to produce, in perception and recall, the common processes of fusion, blending, condensation, confusion, invention, distortion, or accuracy, we could far more readily identify the kinds of situations in which these processes are likely to occur in real life, and should be in a better position to assess the value of data collected and reported as a result of observation, remembering, and thinking in social contexts.[3]

As a corollary to this line of approach there will soon, it is hoped, be available an accumulation of experimental studies of the interview. Since interviewing receives attention in many chapters of this book, little need be said about it here. If we broadly understand by interview any technique by which questions are personally directed in order to elicit additional information about a topic—

[1] Huey (15) and M. D. Vernon (35).
[2] Lewin (18). [3] Cf. Bartlett (1).

with or without a preliminary " free report "—it is obvious that many intriguing experimental problems are involved, only a few of which have as yet been seriously attacked.

C. PROBLEMS OF LEARNING

In view of the great preoccupation of experimental psychologists during recent years with many and varied problems of learning, it may seem unnecessary to give them prominence here. But some of these questions are particularly important in relation to social psychology, and it is in regard to them that the existing techniques and methods are least satisfactory.

(i) A technique for the study of human learning is required which will show clearly *what* takes place between the initiation of a response and its termination, at every stage of learning. Only in this way can we settle the sharp controversy between the experimentalists,[1] who maintain that learning is due to the action of end effects in strengthening *certain links* in the pathway from initiation to termination, and the naturalists,[2] who hold that end effects do not stereotype, but enlarge and liberate pathways.

(ii) More persistent attempts should be made to demonstrate whether there are, or are not, deep and characteristic differences between learning in the case of motor response, and learning at a level of verbalized expression. This is a matter which may have a direct social significance in any hierarchically arranged society, especially of an industrialized type.

(iii) An improved technique is required for a study of how drives, incentives, or motives operate, singly and in combination, in human learning. There is no need to wait until incentive factors of acknowledged and immediate social importance can be brought into the laboratory. Once again it is reasonable to adopt the working hypothesis that the principles of operation and combination of incentives remain consistent although the characteristics of the determining conditions themselves may vary.

D. MORE SPECIALIZED PROBLEMS

All the topics so far suggested are of a general character, and could be suitably investigated in a wide variety of settings. There

[1] E.g. Thorndike (34). [2] E.g. Howard (14).

are also numerous more special problems requiring an experimental approach, of which only a few can be mentioned.

1. *Reaction-Times*

The stage is now set for a fresh study of reaction-times, with questions formulated in terms different from those used by the early investigators. As J. M. Lahy and S. Korngold (17) have pointed out, for most social purposes we need to know, not simply the time that elapses between the exposure of a stimulus and the reaction to that stimulus, but the time that elapses between the exposure of a stimulus and the complete return of the organism to a state of readiness to react to the next incoming stimulus, whether of the same or of a different mode. This should be measured accurately in as great a variety of cases as possible, chiefly with a view to ascertaining characteristic modes of *distribution* of reaction-times, rather than the absolute length of the normal, or average, reaction-time.

Further, in social situations, when reaction-times are of any importance at all, the stimuli are usually presented in such a way as to make anticipatory adjustments possible. Such anticipatory adjustments and their apparent effects on reaction-times should receive a thorough experimental study.

2. *Accidents*

Much work has already been done on various problems of accident incidence and causation, and the general conclusion appears to be justified that for further advance new techniques, with a genuine experimental basis, are required. The starting-points for this are given by what has already been demonstrated. It is certain, for example, that poorness in certain forms of motor co-ordination, especially where leading factors of perceptual response are present, is one of the conditions of accidents in skilled performance.[1] But we know very little about the normal characteristics, conditions, and effects of *different* forms of motor co-ordination. We may suspect that in many cases co-ordination is as perfect as it can be, but that, in response to a more or less rapidly changing environment, its *timing* is at fault. Almost nothing is known about

[1] Cf. Farmer and Chambers (8, 9).

the properties which determine the timing of complex co-ordinations where the signals for this are in slow or rapid change.

There is little exact knowledge, although much speculation, concerning the ways in which proprioceptive and exteroceptive signals are related in situations of a potentially accident-producing type. When are the former weighted and when the latter ? What happens when they conflict or when they reinforce one another ? More must be discovered about the effects of imposed rates or rhythms on co-ordinated activities (17). These are all questions demanding laboratory study, but their issue promises wide social application.

3. *The Friendliness or Unfriendliness of Differently Organized Social Groups*

There are also a number of problems having a direct social interest which are yet not entirely outside the scope of the laboratory ; three will be briefly described.

The first consists of a study of the conditions which tend to promote or to hinder the social co-operation of differently organized groups. I have described elsewhere (3) a preliminary investigation of this question, and D. M. Carmichael (6) has published a more detailed report, based upon a wider survey. The method used is mainly founded upon the consideration that if subjects are asked to predict the probable outcome of attempts at agreement between different social groups in the context of real life, the multiplicity of determining conditions is such that a large amount of apparent clash of judgment occurs.[1] Some observers, selecting one set of determining conditions, are sure that permanent agreement will prove impossible ; others, selecting a totally different set of conditions, are just as sure that harmonious co-operation will be possible. The conclusions reached are falsely regarded as mutually contradictory, and then used as an argument in favour of the view that the course of human social affairs must remain mysterious, and that all practical problems involving the contact of groups must be settled by the application of whatever dogmatic principles happen to be fashionable at a given time.

[1] Cf. H. Cantril (5).

In the experimental investigations referred to the method consists essentially in describing some specific realistic social situation in which agreement is temporarily effected between two different social groups. Certain characteristics of each group are picked out and given emphasis or weight. The observer, having undertaken to accept without criticism the presented data, is asked to state his judgment as to the probable permanence or impermanence of the agreement achieved. In these circumstances the amount of agreement between different observers, both as to the precise effects of certain leading conditions in promoting social co-operation or discord, and as to the probable permanence of attempted co-operation, is much greater than has generally been supposed. It has also been shown that the direction and the basis of such judgments differ significantly as between one social group of observers and another, and that the judgments may themselves be socially determined.

The method is obviously a preliminary one only, but it has immediate practical implications. It suggests that the usual plan of setting up costly and highly complicated machinery to guarantee the peaceful contact of groups is useless, if the basic psychological conditions indispensable for such peaceful contact are ignored. It also suggests what some of those basic conditions are. The technique of the experiment, which has already been worked out fairly fully, is simple and does not require much specialized training. Purists may be reluctant to call this an 'experiment' at all, but the weighting of certain aspects of a situation, with the rest still uncontrolled, and the recording of the relative values assigned to the weighted aspects by different subjects, provide the essential features of many psychological experiments which are widely accepted as being of value.

4. *Social Thinking*

Most experimental work attempted in the study of thinking has been based on the setting of abstract types of problem for subjects to solve and on introspective evidence as to their methods. Many, though not all, of the problems presented are, moreover, of the kind which have only one correct solution. In real life thinking more often takes place in situations which can issue in any one of

a number of ways, none of which can be definitely characterized as 'correct' or 'incorrect', but all of which can be regarded as 'fitting', provided that certain data only are selected or certain assumptions made. Consequently the experimental psychology of thinking is generally regarded as of merely academic interest, and views about how thinking actually proceeds in daily life are usually based upon dogmatic and speculative considerations. This may become of great practical importance when it is assumed, as it commonly is, that the thinking of 'civilised' people is carried on according to one set of principles, and that of 'uncivilised' people according to another; for upon these views are based administrative and educational policies of immense social significance.

A method has recently been developed by the writer and others which consists in depicting some social situation and providing data which carry the situation to an incomplete issue. The material is presented to observers under carefully controlled conditions, and they are asked to carry the situation further, to what they regard as its effective conclusion. If, then, the data which they select and the ways in which they use them are studied, conclusions emerge about how people think, which are of great interest and of practical importance. Information about this technique can be supplied to any prospective field or laboratory workers who are interested. It is simple and not costly, and its application does not involve long or highly technical training. Moreover it can be applied anywhere in the world, and is in fact already being tried out in a number of widely separated areas, including some in which relatively undeveloped native peoples are to be found.

5. *Leadership*

K. Lewin [1] has begun to develop a method of direct experimental observation of selected small social groups, chiefly of children. The questions with which he has been most concerned are the social conditions and effects of leadership, and the differences, as regards its effects, between "democratic and autocratic atmospheres". Although the work is tentative, it contains promise and could be extended with advantage.

[1] (19); see also his paper in *Sociometry*, 1938, i, 292–300.

III. FIELD PROBLEMS FOR THE PSYCHOLOGIST

No field worker in psychology ever lacks questions for investigation. Rather is he tempted to attack too many problems at once, or to select very broad topics, not sufficiently defined for the adoption of fruitful methods of research.

The task of the psychologist in the field should be distinguished as clearly as possible from that of the sociologist making a social survey, or that of many field anthropologists. It is not his primary, or his final, aim to present a picture of a culture, or of the intertwined activities of a whole social group. If he is to make any real advance he must keep close to a factual line of approach; it is better for him to define his problems narrowly and take them up piecemeal than to lose himself in speculations based upon some general theory of human nature.

With these considerations in mind, I have selected one field problem which is susceptible of immediate, concrete, psychological approach and is regarded by everyone as of topical interest. This I shall consider in some detail, mainly with reference to principles. A few other questions which could be similarly investigated will be indicated, but without any attempt at discussion.

A. PROBLEMS OF LEISURE

The field psychologist is not chiefly concerned with the theoretical study or interpretation of the functions of leisure in a hypothetical 'whole civilized society'. Instead the particular problems of leisure which he finds in the group or groups immediately confronting him are his objective. Here, as in many other kinds of field research, his work will have the greatest chance of successful and practical issue if he begins with principles of selection in mind: a selection of place, or type of group, and a selection of particular aspects of social life.

Thus he might be well advised to select: (*a*) a highly industrialized area; (*b*) a residential suburban area; (*c*) a rural area. Whatever may be the difficulties of interpretation, it is rarely possible to do anything but purely descriptive field work without carefully accumulated *comparative* data, drawn from social groups which differ in type of personnel and organization; and with our present lack of systematic knowledge about any branch of social study,

it is wise to choose groups which differ in certain broad characteristics. Any such preliminary selection of place carries with it its own difficulties. A single investigator can rarely deal equally well with groups which differ markedly enough to afford immediately useful comparative material. Ideally, therefore, a small team of investigators should tackle the same problems in different areas, each member of the team having his own special equipment. In the selection and distribution of such a team the laboratory psychologist who has studied what I have called " problems of observational weighting and reliability " (cf. Section II, B, above) should play a leading part. If, as too often happens, a single investigator is compelled to try to cover the whole of a wide comparative field, he should not fail to take advantage of all that can be learnt from the laboratory concerning his own persistent preferences in observation, recall, and evaluation, and their relation to reliability.

The selection of particular aspects of a wide-branching social problem for initial and concentrated study can be directed by one very general consideration. In most cases, at least, it is possible to find a specific problem, within a general topic of investigation, for which there exists some fairly controlled technique, already tested in some other department of psychological research. We may ask, for example: is it the case that leisure occupations in a given group are more nearly in line with general educational abilities than with vocational training and experience, or do they widely diverge from both? Many opinions are held about this question, but nothing is definitely known. A successful technique for the assessment and ranking of general educational abilities is fully established (cf. Chapter VII). Techniques are also well on the way for the determination of vocational ability and adaptability. If these were applied with the special problems of leisure in mind they would speedily throw up new problems, suggest new techniques and modifications of technique, and would carry an investigator far forward towards the solution of his specific problem of leisure.

A related specific problem is now ready to be tackled on a broader basis. It appears possible that, at least for certain fairly early age-grades (up to 13 years), there may be a general tendency for leisure occupations to follow predominantly the lines of vocational interest, when these consist of a bias towards skilled mechanical operations; whereas if the vocation desired is unskilled mechanical or " sedentary

literary ", the leisure occupation tends to diverge from the vocation (A. Crowther, unpublished material). Here, again, initial techniques are available, which could be more widely applied and developed.

In most countries highly organized efforts are now being made which thrust leisure occupations upon popular attention. Instances are the cinema, broadcasting, popular newspapers, the Workers' Educational Association, and television. Every one of them gives rise to a variety of special problems, many of which are indicated in Chapter I. In some cases relevant questions have already been made a topic of laboratory investigation, and part of the technique for their initial field study is therefore at hand.

B. OTHER PROBLEMS

Any one of the following topics could profitably occupy a field psychologist, or a team of field psychologists :—

(1) Problems of organized propaganda, with special reference to the rise and spread of rumour, and to the effects of propaganda upon group morale.

(2) Problems of the conditions of leadership in specific groups.,

(3) Problems of social co-operation between differently organized social groups.

(4) A large group of problems which are best approached by a study of the work of clinics, and research in vocational prognosis (cf. Chapters III, XI, and XV).

(5) A study of the leading conditions of constructive technical activity, and of constructive thinking in a social setting.

IV. THE AMATEUR INVESTIGATOR

I have already pointed out that in the present state of social psychology much preliminary collection and classification of evidence is needed in order to give certain problems that definition and direction which are indispensable if they are to be successfully attacked by exact methods. To this preliminary work the amateur investigator who is interested in social problems can, if he will, make an invaluable contribution. Very often, however, he is at a loss to decide how to direct his inquiries, and even more frequently he is unaware of certain general precautions which must be observed

both in the collection and in the report of evidence. First I will try to state some of the main rules which should be observed, and then I will indicate a few of the directions in which a systematic collection of facts and opinions would greatly assist the social psychologist.

(i) Never mix up first-hand or direct witness observations with evidence from hearsay.

(ii) Record, if possible, the time interval elapsing between the events observed, the reports made, and the opinions expressed. When it is not possible to record the interval, mention that fact.

(iii) If informants have, or are suspected to have, a direct interest, whether of an economic or of an obvious emotional or sentimental order, in the events recorded, set down the nature of such interest, and indicate whether it is known or suspected.

(iv) In all reports distinguish as clearly as possible between facts as alleged to have been observed and inferences from or interpretations of such facts, whether the inferences or interpretations are made by the investigator himself or by his informants.

(v) If classifications are used, *always* indicate as clearly as possible what principle of classification has been followed.

(vi) If informants are asked any questions always record them, and keep separate the results of cross-examination and free reports.

(vii) If informants are asked to keep records, remember that it has been shown that records filled in periodically and at lengthy intervals are likely to be less accurate than records of the same events filled in regularly at short intervals. This is the more important the more closely the records concern an informant's own experiences.[1]

(viii) In cases where information comes through a train of informants it is always interesting, and may be very important, to trace the final versions back to their source, if this is possible, and to note all changes, and the stages at which they were introduced.

The following topics are examples of those in the study of which the social psychologist would welcome the active co-operation of the amateur investigator :—

(*a*) *Noise* : Evidence is required concerning the kinds of noises to which people most commonly object, and the reasons alleged

[1] Cf. McCance, R. A., Luff, M. C., and Widdowson, E. E., "Physical and emotional periodicity in women," *J. of Hygiene*, 1937, xxxvii, 4, 571–611.

for the dislike. This should be collected systematically (*a*) for specific noises in a heavy industrial area, (*b*) for general noise in a busy city or urban district, and (*c*) for special noises in a typical rural environment.

(*b*) *Speed*: Evidence is required concerning estimates of speed, where these can be checked against actual known speeds. Estimates of own and others' speeds should be collected (*a*) from pedestrians, (*b*) from cyclists, and (*c*) from the drivers and passengers of rapidly moving vehicles.

(*c*) *Entertainments*: Information is required about habits of listening-in and of attendance at sporting events, cinemas, and other entertainments in a given district, with special reference to preferred times, topics, entertainers, and places, and to variations accompanying differences of age, sex, occupation, and season.

(*d*) *Perceptual Process*: Evidence is required concerning cases in which direct perceptual process is apparently determined largely by social suspicion or belief, or by the opinions popularly held in one group about another group.[1]

(*e*) *Thinking*: Records and analyses of speeches delivered in clubs, at political meetings, during local government discussions, and the like, are required to assist a study of the outstanding characteristics of thinking in a social setting.

(*f*) *Social Co-operation*: Evidence is required, from a selected district and over a sufficiently long period, about the main sources of social disharmony or co-operation in the district, and the opinions held concerning their causes in each case. A specially interesting question is: if co-operation is established in one respect, when and how far does this help individual members of the groups concerned to co-operate in other respects?

(*g*) *Social and Political Attitudes*: Evidence is required bearing on the important and difficult, but by no means insoluble, question of whether, within a given social group, political and social attitudes are more likely to be determined by negative or by positive statements. Something could be done by a systematic analysis of leading articles in popular newspapers, especially when, as in times of crisis, nearly all newspapers are dealing with the same situations.

(*h*) *Humour*: Evidence, systematically collected, is required on

[1] A brilliant example may be found in *The Times*, 16th and 17th February, 1937, under the title: "Seeing red in the air."

the types of situation which tend to provoke laughter within specific social groups.

If amateur investigators who attempt the collection of such evidence are to be directed and encouraged in their work, one or more central 'clearing-houses' should obviously be established, to which they could report from time to time. Through these they could be informed of results of similar work in other areas which would give point and meaning to their own research, and be kept in touch with the psychologists who wish to utilize their field data, and who could assist them in developing new lines of approach.

REFERENCES

(1) Bartlett, Sir F., *Remembering*. Cambridge University Press, 1932. pp. 317.
(2) Bartlett, Sir F., "Psychological methods and anthropological problems," *Africa*, 1937, x, 4, 401–420.
(3) Bartlett, Sir F., "The co-operation of social groups," *Occupational Psychol.*, 1938, xii, 1, 30–42.
(4) Britt Steuart, H., "Past and present trends in the methods and subject matter of social psychology," *Soc. Forces*, May, 1937, xv, 462–9.
(5) Cantril, H., "The prediction of social events," *J. Abn. Soc. Psychol.*, 1938, xxxiii, 364–389.
(6) Carmichael, D. M., "The co-operation of social groups," *Brit. J. Psychol.*, 1938, xxix, 206–231.
(7) Drew, G. C., "The recurrence of eating in rats after apparent satiation," *Proc. Zool. Soc. London*, Series A, 1937, xc, 95–106.
(8) Farmer, E., and Chambers, E. G., "A study of personal qualities in accident proneness and proficiency," *Rep. Industr. Hlth. Res. Bd.*, No. 55. London: H.M. Stationery Office, 1929. pp. 84.
(9) Farmer, E., and Chambers, E. G., "Tests for accident proneness," *Rep. Industr. Hlth. Res. Bd.*, No. 68. London: H.M. Stationery Office, 1933. pp. 44.
(10) Fernberger, S. W., "The effect of the attitude of the subject upon the measure of sensitivity," *Amer. J. Psychol.*, 1914, xxv, 538–543.
(11) Fröbes, J., "Ein Beitrag über die sogenannten Vergleichungen übermerklicher Empfindungsunterschiede," *Zsch. f. Sinnephysiol.*, 1904, xxxvi, 241–268, 344–380.
(12) Goodenough, F. L., "The measurement of mental functions in primitive groups," *Amer. Anthrop.*, 1936, xxxviii, 1–11.
(13) Gurnee, H., "A comparison of collective and individual judgments of fact," *J. Exp. Psychol.*, 1937, xxi, 106–112.
(14) Howard, E., *The Nature of a Bird's World*. Cambridge University Press, 1934. pp. 102.
(15) Huey, E. B., *The Psychology of Reading*. New York: Macmillan, 1910. pp. 469.

(16) Kendrew, E. N., " A note on the persistence of moods," *Brit. J. Psychol.*, 1935, xxvi, 165–173.
(17) Lahy, J. M., and Korngold, S., *Accidents du Travail.* Paris: Conservatoire National des Arts et Métiers, 1937. pp. 73.
(18) Lewin, K., " Experiments on autocratic and democratic atmospheres," *Soc. Frontier*, 1938, iv, 37, 316–19.
(19) Lindgren, E. J., " Field work in social psychology," *Brit. J. Psychol.*, 1935, xxvi, 174–182.
(20) McFarland, R. A., " Psycho-physiological studies at high altitudes," *J. Comp. Psychol.*, 1937, xxiii, 191–225; xxiv, 227–258.
(21) McFarland, R. A., and Barach, A. L., " The response of psychoneurotics to variations in oxygen tension," *Amer. J. Psychiat.*, 1937, xciii, 1315–1341.
(22) McFarland, R. A., " The psychological effects of oxygen deprivation (anoxemia) on human behaviour," *Arch. Psychol.*, 1932, xxi, No. 145. pp. 135.
(23) Müller, G. E., *Die Gesichtspunkte und die Tatsachen der psychophysischen Methodik.* Wiesbaden: Bergman, 1904. pp. 244.
(24) Murphy, G., Murphy, L. B., and Newcomb, T. M., *Experimental Social Psychology.* New York: Harper, 1937. pp. 1121.
(25) Nadel, S. F., " Experiments on culture psychology," *Africa*, 1937, x, 4, 421–435.
(26) Nadel, S. F., " A field experiment in racial psychology," *Brit. J. Psychol.*, 1937, xxviii, 2, 195–211.
(27) Oeser, O. A., " Some experiments on the abstraction of form and colour," *Brit. J. Psychol.*, 1932, xxii, 200–215, 287–323.
(28) Oldfield, R. C., " Some recent experiments bearing on 'internal inhibition'," *Brit. J. Psychol.*, 1937, xxviii, 1, 28–42.
(29) Pavlov, I. P., *Conditioned Reflexes.* London: Oxford University Press, 1927. pp. 430.
(30) Rawdon-Smith, A. F., " Experimental deafness," *Brit. J. Psychol.*, 1936, xxvi, 3, 233–244.
(31) Sherif, M., *The Psychology of Social Norms.* New York: Harper, 1936. pp. 209.
(32) Smith, E. M., and Bartlett, F. C., " On listening to sounds of weak intensity," *Brit. J. Psychol.*, 1919, x, 101–129, 133–168.
(33) Thorndike, E. L., *The Psychology of Wants, Interests, and Attitudes.* New York: Appleton-Century, 1934. pp. 301.
(34) Vernon, M. D., *Visual Perception.* Cambridge University Press, 1937. pp. 247.
(35) Zeigarnik, B., " Das Behalten erledigter und unerledigter Handlungen," " Untersuchungen zur Handlungs- und Affekpsychologie " (ed. K. Lewin), III, *Psychol. Forsch.*, 1927, ix, 1–85.

Chapter III

THE RELATION OF PSYCHOPATHOLOGY TO SOCIAL PSYCHOLOGY

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The relevance of psychopathology to social psychology may be considered under two headings: the data which the psychopathologist gathers, and the methods he employs.

I. THE PSYCHOPATHOLOGIST'S FIELD

The psychopathologist deals with the individual more intensively than does any other psychologist and, therefore, his problems are primarily separable from those of the social psychologist. His data are of three types. First there are symptoms, the product of abnormal function. Then there are groups of symptoms which belong together in the formation of disease, or reaction, types. Finally, he uses special methods of examination in order to gather further data, not necessarily morbid, in order to find possible causes for the symptom formation.

For present purposes I am going to postulate that modern theories are, in the main, sound, that is that abnormality results from anomalies in that aspect of mental life which has to do with instinct, motive, emotion, and so on; further, that these anomalies are detected more in the unconscious than in the conscious mind. So the psychopathologist gathers material which may be used for the study of what motivates and moves the individual man. Since the vicissitudes of life furnish powerful incentive stimuli, and since the psychological laboratory can provide only weak or spurious representations of such stimuli, the clinic is more likely to supply significant fact and sound theory as to the mainsprings of conduct in the individual man than is the laboratory.

A. SYMPTOMS

At the moment a knowledge of clinical psychiatry has no value for the social psychologist.[1] But it should be pointed out that this state of affairs may not last. If it should be shown that social groups have characteristics which are so integrated together as to form something analogous to personality in the individual, then this " personality " might have its distortions, which would be analogous to the reaction types of patients. If it could be shown that groups could have depression, elation, reactions of inferiority, delusions of persecution or of grandeur, and so on ; if, further, these symptoms could be shown to be like their individual analogues in genesis and organization, the prognosis which is implicit in psychiatric diagnosis might be transferable to the science of social behaviour. Sometimes the reliability of prediction in psychiatry approximates to certainty.

B. THE PATIENT'S LIFE

When we come to that part of the psychopathologist's material which is concerned with a study of the production of symptoms, it is evident that the range of discussion will be determined by what definition is given to social psychology. The bulk of pathogenic, unconscious, mental activity on the one hand centres round personal relationships, and, on the other hand, the ethical factors which contribute largely to repression are derived chiefly, if not entirely, from group standards.

1. *Personal Relationships*

Does every personal relationship belong to the social psychologist's field ? If so, sex belongs to social psychology, a view which psychopathologists would attack. The biologist would also object, because there are many non-gregarious species in which sex episodically determines the mutual reactions of two individuals. Academically the boundary could be fixed arbitrarily, but the psychopathologist claims on practical grounds that the mutual attachment of two

[1] I am confining the province of social psychology to phenomena that depend on group activity for their appearance ; a group, in turn, is a social unit that is such in virtue of integration. The reader should not assume that this definition is that adopted by all contributors to this volume.

individuals is the proper study of the psychopathologist, because its scrutiny is a daily task for him and without the data such work supplies psychopathology would be farcical. I shall assume that the data which may be collected and generalized concerning the mutual reactions of a single pair of people are not *per se* a proper part of social psychology (and become so only in so far as the relationship is coloured by influences from the social milieu); in other words, a pair is not a group, and social psychology studies only groups, although one part of such study may be the observation of group influence on an individual member.

But the personal relationships which interest the psychopathologist are not merely the attachments which his patient may have for separate individuals. His family is also important and, as a unit, may influence him profoundly. The family is, among mammals at least, the most universal of groups. Within it mutual reactions are modified by 'family influence', while individual attachments or antagonisms may determine the constellation of its members into a pattern specific for one particular family. On the other hand, society as a whole has much to say as to the constitution of its families. Patently the fields of the psychopathologist and the social psychologist are overlapping at this point. With his peculiar advantage for gaining intimate knowledge, the psychopathologist is probably best fitted to study the internal constitution of the family, and may supply the social psychologist with the information thus acquired. On the other hand, the former sees a relatively small number of families and can learn from the social psychologist about the kind of family which is commonest in the culture of which it forms a part.

2. *Morals*

A similar disparity of opportunity and an overlapping of interest is discernible in the field of morals, which interests the psychopathologist because of its close connection with repression. The moral sense of the community as reflected in laws and conventions ought, quite clearly, to be surveyed by the social psychologist. The psychopathologist knows that this lies beyond the range of his material and technique; it is, for him, an imponderable although definite factor. Assuming its existence, he then finds that its manifestations in the consciences and repressions of his patients are apparently manifold, although social influences ought, on his

assumption, to be constant. He therefore argues that all the tendencies in the individual which make thoughts and actions 'right' or 'wrong', in his own or other people's judgment, are a product of individual elaboration, and that the variable ethical reactions of individuals are, in consequence, outside the field of the social psychologist. To put this another way, the psychopathologist might say that the morality which the social psychologist can study would produce a conformity within the group precluding individual variation. With all members of the group behaving and feeling alike, there would be no one within the group who was better or worse than his neighbours and such judgments would be passed only on other groups, the members of which were similarly consistent in their moral reactions.[1]

Having thus drawn a sharp line between the two fields, the psychopathologist is soon confronted by exceptions. These, in general, spring from two sources.

The first is that everyone belongs to a number of different groups which compete for his loyalty, and these groups may vary in their demands from day to day. Whenever a group has an opportunity for aggrandisement, or is threatened, it tends to draw together and call on its members for a more active loyalty. For instance, the outbreak of war strengthens patriotism and weakens the sense of duty to family or friends. For some individuals this means the weakening of a conflict (and often recovery from a neurosis), for others it may create conflict.

In another example we see a new moral orientation established by the temporary resurgence of a sub-group within the larger social structure which normally determines the ethical sense of the community as a whole. Thus a labour union, or an employer group, may during a strike encourage or condone injury to opponents that can extend even to homicide. In this way, unquestionably, social factors can be intruded into the organization which has just been held to be individual. For knowledge as to these intercurrent influences the psychopathologist must turn to the social psychologist.

The second source of exceptions is the recruitment of groups from those who have similar idiosyncracies. People who are 'different' may club together because they share the same peculiar

[1] See the discussion of norms in Section II, B, below.

views or tendencies ; they can thus constitute a minority building up its own ethos. If this minority be sufficiently numerous and coherent it can provide a rationalization and moral backing for anomalies that would otherwise turn the individual into a pariah.

An example will illustrate this. The ubiquity of homosexuality is notorious and even the most cursory examination of the literature on the subject demonstrates that it has been accepted or tabooed with extraordinary variability by different cultures. In our own civilization it is abhorred—but not universally. Men who are homosexually inclined tend not merely to form friendships individually, but also to build up social circles in which their aberrations are not viewed as moral, but rather as biological variations. These groups give a collective backing to the view that inversion is a normal variant, purely congenital, and therefore not the responsibility of the individual. Instead of being pariahs, they become exceptional people with greater sensitiveness to æsthetic and intellectual values. In the past these groups have left their mark on history. In Bœotia Pelopidas relied on the Sacred Band, or Band of Lovers, in his most critical military operations. They were said never to have been defeated until Chæronea.

Enrolment in a homosexual group relieves the invert of a conflict which might otherwise be crippling. This is demonstrated negatively in the case of another sexual irregularity which is, by its very nature, solitary. The masturbator, who is nowadays often free from anxiety about physical disablement and is unable to find any reasonable ground for supposing his habit to be wicked, is nevertheless prone to worry over it ; he tries to break it off and complains of the weakness of will which prevents him from accomplishing his freedom.

Why should this practice produce ineffectiveness ? I think the answer lies implicit in one of the titles for it. The ' secret vice ' offers no opportunity for concourse with others who are similarly impelled, and thus a group backing to the arguments justifying or condoning the habit is absent. On the contrary, masturbation cuts off the *habitué* from his fellows. Particularly when his natural companions are those who profess active humanitarian and moral principles, the victim feels, " If they knew what I know about myself, would I still be accepted as a comrade or partner in these undertakings ? " He thus cuts himself off from the emotional

reciprocity through which the normal individual receives 'moral backing'. Self-confidence, strength of character, and strength of will are all terms for what is, in no small measure, a conviction that social approbation is being, and will be, enjoyed.

These examples show, then, that there is a border-land between social psychology and psychopathology. Social factors may operate directly to modify the conflicts of patients even after the main trends of the personality have been established. On the other hand, factors like morbid tendencies, which at the outset seem to be purely individual, may be the basis for the formation of not unimportant groups. The groups, once formed, may in turn tend to increase the number of those who have the morbid inclination. For instance, there are probably many whose inversion is changed from being a passing adolescent phase into a permanent homosexual practice through the accident of being brought into contact with a group, usually of older persons, which has rationalized the anomaly.

II. METHOD

When we consider method rather than material, we again find close resemblances between psychopathology and social psychology. Both are predominantly observational rather than experimental sciences. If experiments are opportunities for observation where the majority of the factors are under control, we can say that there is in studying the production of abnormal mental reaction only one truly experimental method, namely that of hypnotism or suggestion. This method throws light on the structure of hysterical symptoms and may, analogously, indicate the ways in which conscious, normal thoughts or perceptions are immediately connected with currently active unconscious mental operations. But hypnosis tells us little about those organizations of unconscious tendencies which determine the interests, motives, or attitudes of normal or abnormal people.[1]

Similarly in social psychology experiments may be made to discover how social influence may modify individual behaviour at any moment, but experiment is unlikely to solve the major

[1] Cf. MacCurdy (8), chapter 12, "Comparison of material gathered by hypnosis, psycho-analysis, and observation of the psychoses."

problems connected with the genesis, development, and expression of the general ethos of social groups. Data to be used in such theoretical reconstructions can be gathered only by recording behaviour belonging specifically to the groups as such and by finding out how their social *milieu* has influenced sample members of the group. Psychiatric method, used in the reconstruction of delusional themes, is probably capable of adaptation to social psychology in the first of these quests, whereas some information as to the technique employed in the examination of patients may also be of interest to the social psychologist.

A. 'PSYCHOLOGICAL REALITY'

In the earlier stages of the development of psychology great stress was laid upon introspection. Against this arose a more objective approach, which culminated in the extreme forms of behaviourism. Most present-day psychologists try to avoid both extremes, but the psychopathologist is forced to compromise even if he tend, temperamentally, to be an extremist.

Under the combined influence of psychiatry and psycho-analysis the student of the abnormal has learnt to deal with subjective phenomena objectively. The delusion of a patient, although manifestly absurd, has to be treated seriously it if be controlling his behaviour. Similarly the idea which suddenly occurs to a patient under psycho-analysis, and which he tends to suppress because it is absurd, may interest the analyst more than the patient's saner ideas. For the psychopathologist such ideas fall into the category of what may be termed 'psychological reality'. The laboratory psychologist may neglect this category and still do useful work; the psychopathologist may not, and in fact one might say that it includes the bulk of his material.

Being thus forced to study material that is from one point of view unreal, but from another real, the psychopathologist may be led to consider the meaning of the word 'real' more carefully than the laboratory psychologist, and in a different manner from the philosopher. He is not concerned with that to which the term ought to be applied, but rather with what the word actually betokens in everyday life. A patient is said to have 'lost touch with reality' when he suffers from delusions. But what is a delusion? The psychiatrist must answer this question, and finds that, as

a rule, he has to give a kind of answer that would be unacceptable in any of the physical sciences. Patients aver that certain acquaintances are plotting against them, and as proof cite interpretations of facial or verbal expression that seem, only to the patients, proof that an apparent friendliness is a cloak for hostility. Against this interpretation there can be urged only an improbability, an improbability that is measured by the number of those in the social group involved who do not join in the patient's interpretation. Essentially, then, this type of delusion is held to be such in virtue of a social judgment.

Again, the patient may believe that he is an incarnate deity, that he has made a marvellous discovery in science, or that he has devised a new philosophy which explains the universe. If argument with the patient is attempted, the psychiatrist is often forced to admit that what is claimed is unjustified only because it is incompatible with current beliefs or theories. So he is driven to conclude that the ' reality ' which is affronted by his patient's beliefs is something determined by the theory acceptable to the patient's family and friends. Not infrequently careful inquiry has to be made as to just what are the beliefs and ' superstitions ' current among those with whom the patient has grown up. Failing this, grave errors of diagnosis are possible. When he seeks to generalize this experience the psychiatrist is forced to the conclusion that a Hottentot's belief may be a ' delusion ' in a Londoner, whereas a Cockney's interpretation of nature would make an uneducated African native ' insane '.

We must then agree that the individual takes over, and builds into his personality, more than the morals of his group ; he absorbs too its popular science and religion. These determine his theories as to reality and sometimes even his experience (' visions ', for example). There is of course nothing new in this statement. It represents the position adopted by Trotter (12) thirty years ago.[1] To a social psychologist the inclusion in the personality of group morals and intellectual judgments may be merely a speculative hypothesis ;

[1] It is interesting to recall that it was Trotter who invented the term rationalization ' to cover the process whereby a man argues himself into the opinion that his views are the product of original observation and deduction, although he has absorbed them from his group. Psychoanalysts, following Ernest Jones, have merely popularized this term.

to the psychopathologist it is so much part of his method that he hardly ever thinks of putting it to the question.

The psychopathologist, when he has been influenced by psychoanalysis, regards the conscious thoughts as well as the behaviour of his patients as products of both unconscious and conscious influences. This means that what the patient believes to be his motive is accepted as the true occasion of his actions only if it be an adequate explanation of what was done.[1] Similarly the justification given for a conscious opinion is held to be valid only if it be adequate. When discrepancies exist between the alleged causes and the results, unconscious factors are sought which may be invoked to establish a harmony between cause and effect.

The social psychologist, particularly when working in the anthropological field, must often feel the need of such harmony, and might possibly use the psychopathologist's method more often and more persistently than he does. An anthropologist who succeeds in getting a full and accurate account of what a people may be able to tell of their beliefs and customs, and then imagines that he understands the culture, might still be a long way from such understanding. Customs and institutions may be as imperfectly understood by those who live under them as the ultimate springs of action may be unrevealed by the introspection of the individual. An example from our own culture may make clear how the psychopathologist would approach certain social problems, assuming the group to have 'unconscious' tendencies analogous to those of individuals.

A stranger who was examining the status of the Established Church in England would learn that it was based on legal authority, privilege, and the possession of considerable property. If he questioned random samples of Englishmen, he would find that the majority of the population did not attend the Church of England services and were apparently indifferent to formal religion; that there existed a large number of dissenting bodies; and that—to judge from tithe agitations and legislation—the right of the Church to property was disputed by a considerable body of citizens.

The conclusion drawn by the stranger would very likely be that the Church represented an outworn and dying religion, once powerful, but

[1] This acceptance does not, of course, eliminate the possibility of unconscious motivation for truly rational behaviour.

now an institution towards which the average man had an attitude of indifference or hostility. At least, we may presume, the investigator would not expect that the country as a whole—even including Scotland, Wales, and Northern Ireland—could be stirred profoundly by proposals to legalize practices long current in many individual churches. Yet this is exactly what happened during the 'Prayer Book Controversy'. What was in all its obvious features a matter concerning only those who assisted at services in parish churches in England was discussed hotly, and even bitterly, by those who never darkened a church door, or who lived in parts of Britain where the Church of England was not the established church. Countless people who professed indifference to formal religion, but were proud of their tolerance, were vehement in their insistence on the necessity for the perpetuation of a restriction upon the formal liberty of a parish church to depart from the forms prescribed in the Prayer Book.

The psychopathologist would argue that the polemic, although cast in terms technically religious, must be symbolic and concerned ultimately with policy of some other kind. He would scrutinize the arguments of the opponents of Revision, and might discover a reiterated fear of Roman Catholic domination in England. It would seem as if tradition had kept alive the Reformation struggle of the sixteenth century. But this again would seem to be absurd in the light of the changed conditions of European politics. So he would conclude that the Reformation tradition itself could have survived as a potent influence only it it had some further symbolic significance. His problem would be to discover what it was that the British people were so jealously guarding. If there were such a precious possession it would be (on the individual parallel) something unconscious, and expressible only in symbolic form, but something which, if important, would show itself in symbols pertaining to other fields as well as to that of religion. So the psychopathologist would examine similarly other examples of national excitement, peculiarly British, in the hope that he might find there other symbols, manifestly different, but identical in their latent meaning. Having attained an 'over-determination' in this 'psycho-analysis' of British behaviour, he would feel that he had not only discovered the probable explanation of the Prayer Book controversy, but that he had also gone a long way towards an understanding of the British ethos as a whole.

To sum up: the psychopathologist would never expect to find that a formal description of its institutions and customs would provide adequate material for an explanation of any society. Nor would a description of group reactions be acceptable. He would, rather, expect that the true nature of the culture could be found only by an analysis demonstrating both formal and behaviour phenomena as expressions of fundamental trends that were revealed in symbolic form.

B. NORMALITY AND ABNORMALITY

A word must also be said as to the psychopathologist's norm. In most sciences—including much of psychology—the norm is an average or mean arrived at by an arithmetic process and used as a static basis for comparison. But the psychopathologist uses two norms that cannot be determined by counting heads, since they are dynamic. One is the social norm, which is not an 'average' individual, but what his group expects from each member in the way of action and belief. The other is an idiosyncratic consistency characteristic of every individual, something bound up with the personality which strives against change. It is this 'self' we refer to when we say of someone that 'he is not himself' or that 'he is beside himself'. Both of these norms are not merely dynamic agencies, they are fluid. The methodological (and perhaps epistemological) problems involved in using norms both fluid and dynamic cannot, however, be discussed here. Probably social psychology shares with psychopathology the disadvantages—or advantages—of being forced to use the notion of 'norm' in the dynamic sense.

An essential factor in the production of a psychosis is a regression of the personality whereby socially derived influences are weakened or lost. Hence there arises on the one hand conduct that is unconventional or 'immoral' and, on the other, delusional thinking. Such a departure from his usual norm may also be found to have occurred when a man reviews his behaviour after participating in a 'mob' or 'crowd' activity. In circumstances which stimulate an appetite or interest common to a number of people in close intercommunication, the threshold for reactions appropriate to the interest involved is apparently lowered by a kind of psychic contagion. These then become preferred reactions and, in their

unbridled and disproportionate expression, mark a departure from both general, social, and personality norms. Each member of such an unbalanced group is then 'insane', both in that he may indulge in behaviour that is usually judged to be improper, or allow his normal critical judgment to be swamped in the communal excitement. A lynching mob, for instance, does not weigh evidence and it does commit murder.

Such examples show how unstable the personality can be and how incompletely the general standards of decency and reality may have been integrated into it. If the integration had been complete, these standards would have been an invariably operating part of the personality. On the other hand, if this firm integration were accomplished, the individual would be, *ipso facto*, incapable of further moral or intellectual development. So, perhaps, liability to the folly or fury of crowd reactions is the price we pay for elasticity. Similarly individuals completely immune to mob contagion would probably be incapable of heroic passions.

C. THE INTERVIEW

When we pass from the general theory of psychopathological method to its practical techniques a few points of interest to social psychology emerge.

In the first place, what may be called the 'interview' is the basic method in this observational science. The certified patient is examined in interviews and additional information comes through interviews with his family and friends. Psycho-analysis in its primary meaning is, for example, merely a special technique for gathering a history of the patient's life in a series of interviews.

The informant of the psychopathologist is more likely to be co-operative than is the informant of the sociologist or the anthropologist, because he recognizes the doctor's right to ask questions and he hopes his answers may be useful in determining treatment. The neurotic patient is prepared to talk even of unpleasant subjects because he knows—or is easily persuaded—that 'making a clean breast of it' is essential for his cure. The relatives of psychotics are usually prepared to tell what will help the doctor to diagnose and treat the unfortunate. The patient himself is rarely averse from discussing his symptoms, for he has lost his insight to such an extent that he does not regard any

item of his behaviour or thoughts as abnormal. A stubborn reticence as to delusions is a great rarity.

Co-operation is thus the rule in the interviews which psychopathologists conduct. But, of course, this means merely conscious collaboration. Unconsciously there may be resistance against the laying bare of what has been repressed, and with this there may develop unconscious antagonism to the doctor who tries to ferret out these secrets. Under the caption of ' transference ' the psychoanalysts have developed a special theory and technique for dealing with this problem. It involves such specialized knowledge as to exclude its discussion here, and the technique of psycho-analysis has significance for social psychology only in so far as familiarity with it may enable the social psychologist to detect the indirect signs of antagonism which would make an interview futile or its material unreliable. To know more than can be gathered from quasi-popular psycho-analytic literature [1] would involve personal psycho-analytic experience. What every interviewer should know is that an emotional attitude may be set up which will inhibit the informant or, on the contrary, may lead him, in good faith, to fabricate information that he thinks the inquirer wants.

As in all interviewing where an attempt is made to get comprehensive information on one or more topics, the psychopathologist uses a formal outline which is drawn up in advance to ensure that no important question will be left unanswered. He follows this outline in no fixed order. Having got his patient talking, he brings the conversation round to one topic after another. The major difficulty is to get the discussion going at all. Owing to the peculiar nature of the medical relationship a patient may sometimes be made to talk by putting him on the defensive through challenging or critical remarks which might terminate interviews of other kinds. His desire to get well may be questioned, his judgments may be criticized, the sanity of his ideas doubted, and so on. It would be only under rare conditions that the social psychologist could so solidify his status with the subject as to make this kind of technique feasible.

It might be thought that, with the advantage of a degree of

[1] For example, see the excellent discussion of the theory of transference in the chapter on " The action of suggestions in psychotherapy " in E. Jones (4).

co-operation which cannot be expected in other kinds of inquiry, the psychopathologist should be able to make large contributions to the store of information which the social psychologist urgently needs. But the very nature of the situation which secures co-operation narrows the field of inquiry. The object of the interview is primarily therapeutic, and to this scientific curiosity must always take second place. The obtrusion of questions having no relation to treatment would destroy just the superiority of *rapport* which the doctor enjoys as compared with the layman.

D. HYPNOSIS AND CROWDS

The hypnotic state is one in which the subject loses to a greater or lesser degree his capacity for normal, conscious control of his thoughts and actions. It refers, therefore, to an organism having a consciousness. Until it be proved that a social group has a consciousness which controls its behaviour, hypnotism cannot be a term used to describe any influence exercised over a group. But this does not mean that there is no valid analogy to be found between individual responses to suggestion and the reaction of, say, a crowd to certain externally imposed conditions. The more an appeal to any group is made through what is called 'propaganda', the less does pure reason enter into it. If this be analogous to suggestion, or if, as seems possible, the crowd response is a cumulative result of individual suggestions, then it ought to be found that certain generalizations about suggestion would find their analogues in crowd reactions. Three of these may be mentioned.

The first is that nothing can be wholly created by any suggestion or hypnotic command. What happens is, rather, that the operator brings into relief certain activities that are potential in the subject and merely makes them dominant, whereas in his normal life such activities are exhibited in the balance characteristic for his personality. It is an illustration of this principle that precisely the same words or actions on the part of the operator may elicit opposite kinds of response in two different subjects.

The second generalization is that it is necessary for suggestions to be specific. No matter how deeply a subject may be hypnotized, no command to be 'well', 'friendly', or 'suspicious', or to have 'hallucinations', is effective. Nothing happens. One has rather to say, "Your headache is gone", or "*A* is approaching

you with a friendly smile (or a frown)", or "There is a lion over in the corner". The relevance of this to success or failure in propaganda is an obvious line of inquiry.

The third generalization is that the more dramatic any hypnotic effect, the more is it temporary. The reason for this is that the more dramatic results are secured only when the consciousness of the subject is most disturbed, i.e. in deepest hypnosis. For these exhibitions there is no memory, and so there is nothing to bind the incident, or influence, with the subject's subsequent life. The suggested response tends to endure only so long as the suggestion is continued.[1] As to social analogues, one thinks immediately of the vacillating and temporary nature of crowd reactions. In the political sphere one wonders whether it would be found that governments elected on a wave of emotion have always had a brief tenure of office. As to propaganda: is it possible that what purports to be something for nothing may turn out to be a commodity worth far less than the deferred payments demanded for it? In other words, is the effect of propaganda so temporary that fresh propaganda is constantly needed to prevent an inevitable reaction when merely news, and not doctored news, is supplied?

E. PSYCHO-ANALYSIS

Psycho-analysis in its present form is so intensely an individual technique that a suggestion that it might be applied to groups is as sane as a proposal to bisect an odour. However, it produces material significant for social psychology. More than any other technique, it throws light on the way in which social influences mould an individual character. This, although significant, could be utilized only if a consistency of influence was demonstrable. As a result of some system of classification, such consistency might be shown to occur. But we must remember that those who undergo analysis are neurotics, persons who have failed to adapt themselves to an environment that is chiefly social. They therefore cannot be taken as constituting a random sample. On the other hand, possibly the neurotic's conflicts are common to all, and

[1] This may be accomplished by post-hypnotic suggestion, but I know of no examples of the extended operation of post-hypnotic suggestions where there has not been a maintenance of the *rapport* between the hypnotist and the subject.

patients are merely those casualties which are evacuated. In that case, psycho-analysis ought to furnish invaluable general principles expressing the relationship of society to the individual. However, the safest procedure at present is for social psychologists to take psycho-analytic findings as hints for exploration rather than as established principles to direct interpretation.

There is one element—and a central one—in psycho-analytic technique which is so often imperfectly understood by psychologists that a brief exposition of it is advisable. This is the use of free-association, which, in the course of psycho-analytic treatment, becomes something quite different from anything securable in a psychological laboratory. According to psycho-analytic theory all spontaneous thoughts, and all personally determined elaborations of thoughts initiated by external stimuli, are the products of unconscious thinking. The latter pursues different ends, and the vehicle of its expression is a different ' language ' from that of consciousness. But that which is introspected nevertheless symbolizes the unconscious trends. The selection of the symbols employed is largely determined by the ways in which they fit into the logical sequence which consciousness demands. The symbols are manipulated, largely by ' preconscious ' influences, until they are so perfectly adapted to the subject's conscious standards, and to the demands of the immediate situation, that they seem to have originated in consciousness, and there is no obvious evidence of their having any ulterior significance.

If conscious control is weakened, however, as it is (progressively) in day-dreaming, drowsiness, sleep, and delirium, the unconscious mind betrays itself with increasing clarity. Adaptability to the environmental situation first, then adaptability to the subject's sense of reality, and thirdly, adaptability to the ethical standards of the personality, all in turn weaken and finally vanish. The removal of these inhibiting or modifying factors means that thinking regresses in content and type to an unconscious level. In place of verbalizations, the mental processes are prone to become a series of images, such as are familiar to many of us who have introspected and remembered hypnogogic hallucinations.[1] These images, and such verbalizations as are retained, are poorly veiled symbols of unconscious complexes.

[1] I.e. the visions which occur just before falling off to sleep.

If the facts are as thus stated, it would follow that there is an inherent incompatibility between consciousness and an appearance of the unconscious type of thinking. The latter can be produced by abolishing conscious influence through hypnosis, or it may appear in sleep or mental disease, but active introspection precludes any direct manifestation of the unconscious mind. Psycho-analysis claims, however, that the gap can be bridged by the use of the free-association technique.

With comparatively little effort any one of us can relax critique so as to allow thinking to become rambling, the connections between elements being determined more by personal experience and interest than by any community of conventional meaning. Such 'free associations' may be easily demonstrated in the psychological laboratory. When this is done, it is found that a thought may occur which refers to some essentially private topic. The subject pauses and is silent for a moment while he re-orients the drift of his thoughts into a less personal channel. Or he may frankly state that he has thought of a private matter which it would be impolitic to mention. The experimental situation is not one to justify impropriety or a breach of confidence. Thus the train of associations is deliberately broken.

Supposing, however, that this obstacle is removed by an assurance that the experimenter will destroy his record and keep secret everything he hears, another difficulty soon appears. A thought occurs to the subject that he is ashamed of, ashamed not merely to express to another but even to admit to himself. He is momentarily embarrassed and then goes off on another tack. If the experimenter insists on the subject's speaking out, the latter will either refuse to continue with the experiment, or he will say, perhaps quite truthfully, that he has forgotten the fleeting, disturbing thought or image that flashed into his mind. Against the blocking produced by a spontaneous shame reaction the experimenter has no weapon. But the psycho-analyst has two. One is the patient's desire for relief from symptoms. Conquering the shame inhibition is represented as a necessary step in the progress towards health. The other weapon is transference. The utterance of the shameful idea may be a way of cementing the *entente* which has become unconsciously desirable. For one or both of these reasons the patient may be induced either to say what is in his mind or to persist in his efforts

to recapture the fleeting thought. The psycho-analyst is expert in so far as he is able to detect the associations which betray the approach of banned ideas and to keep the patient at them till the significant item breaks through. It usually takes many days of ' training ' for a patient to attain a true *laisser aller* in his associations. But when this is done material of real unconscious significance appears.

A further point is particularly important for psychologists to realize. Truly ' free ' associations are achieved only when conscious critique is completely abandoned. Sometimes this principle operates to such an extent that the patient forgets what he has said, although he recognizes its repetition by the psycho-analyst. Rarely the patient may so lose his contact with the environment as to slip into what is, technically, a somnambulistic state. At any rate the subject cannot have truly free associations and introspect them at the same time. The best that anyone can ever do in the way of self-analysis is to let his thoughts go freely, then alternate abandonment of critique with the application of introspection, and this is an extremely difficult feat. Practically, therefore, it is impossible for truly free associations to be produced and studied except under the conditions of a psycho-analysis.

F. THE STUDY OF DELUSIONAL THINKING

The third method of psychopathological research is the study and collation of false ideas. This involves the description of anomalous behaviour, an account of hallucinations (when the patient can give it), and a meticulously full and accurate record of what the patient says.

The technique followed in obtaining a record of the patient's utterances and behaviour may be of interest to the social psychologist. The technique must be changed in accordance with the volume and speed of production of what is to be recorded. At one extreme is the retarded and depressed patient who sits with immobile features and takes a full minute to answer a question with a monosyllable. The examiner can write down a full record of this and have time to spare. Then there is the patient who is in good contact with the environment, who answers questions promptly and yet not discursively. Here again a long-hand record can be easily made, because the patient will do nothing noteworthy while the examiner is

recording the last words spoken. If the patient is very talkative, however, only a summary of his statement can be made, with verbatim quotations of any odd words and phrases, or words used with unusual meanings. A note is made to the effect that, for instance, the speech was 'rambling', and at a later interview a stenographer is employed to take down a few hundred consecutive words in substantiation of the characterization previously given. After long practice a psychiatrist can record the essentials of an interview as it proceeds, even when the patient is 'flighty' and is speaking rapidly. He learns to write while listening; he invents his own signs to represent his questions and some of the words used by patients, and thus can record the gist of the utterances, and some verbatim account, managing to include in the latter all peculiarities of phraseology. Such a record is often supplemented by long stenographic samples.

Finally, in the case of some patients, the questions asked produce no more impression than do apparently chance stimuli from the rest of the environment. The psychiatrist then attempts a general description of the way in which the patient behaves and talks, mentioning such recurrent topics or phrases as he may note. In the main, however, the examiner must have recourse to stenographic reproductions. When such records are made at long intervals—sometimes even from separate illnesses—a comparison of them shows the relatively small range of the patient's ideas. Very occasionally a dementia præcox patient will produce a steady, rapid stream of apparently meaningless phrases and sentences —the so-called 'word salad'—material that few, if any, stenographers can record. In one such case I had recourse to a dictating machine, into which I repeated each word as the patient uttered it. The mechanical record was then reproduced slowly, and the words put into written form.

Patient and scientifically-minded psychiatrists have in the past made accurate records of their cases, but it has been a rarity until this century. Under the influence of psycho-analysis, however, the principle of psychogenesis has been established [1] and with this has come the development of a new technique. No matter how

[1] See Freud (2), Tilling (11), Bleuler (1), Jung (5), Meyer (10), and Hoch (3). For a brief account of these landmarks in the development of modern psychiatric theory, see MacCurdy (9).

nonsensical it may appear, as much as is feasible is recorded of the patient's productions and then the material is analysed in the following way.

First a search is made in order to bring together a list of the topics which are ventilated. Then what is produced about each topic is recorded under that heading. This supplies a 'meaning' to the topic (which may be a meaning peculiar to the patient and the very essence of his disorder). The meanings are then brought together to see if they tell a story. They do. Since sometimes the material before sorting is apparently disconnected nonsense, this is a startling result. From the reconstruction it may be seen: first, that the psychotic patient's thoughts are for ever circling in a narrow compass —even though he may seem at any given interview to be extremely flighty and distractible; secondly, that in essence the ideas of one patient and the next are much alike, the same general themes are dominant, and similar symbolic expressions of them are constantly recurring. Prognosis is more accurate in mental than in physical disease, and it is probably true to say that insane behaviour is more readily and truly predictable than sane conduct.

There are several ways in which the regularity of psychotic conduct may be useful to the social psychology of the future. It is probable that all people have a potential capacity for the development of every psychotic reaction of the constitutional order, i.e. all the psychogenic reactions. If so, each individual probably possesses a predilection towards one type of psychosis rather than another. This predilection exists unconsciously, as a potentiality. If it affects the personality of the patient before his break-down, for every type of psychosis there ought to be an antecedent personality type.[1]

This is a hypothesis as yet unconfirmed. If it prove to be true then we might hope for a typology, more useful than any we already have, that would be directly applicable in the psychiatric field and might also be applied to normal people who, we should assume, differ from their psychotic neighbours not in lacking potential abnormality, but in the fact that abnormal tendencies are expressed in those characteristic sublimations which constitute the personality type in question. Before the lore of psychiatrists can be used as a basis for typology, however, much more work must be done.

[1] Cf. Kretschmer (6).

Classifying people on the basis of such dilute symptoms as are compatible with normality is definitely unsafe. While it is true that those who are antecedently apt to be over-enthusiastic tend to develop maniacal states, a history of worry and egocentricity is commoner in depressives than is actual dilute depression, although neither worry nor egotism appear in the symptomatology of the purest depressions.

A further method of approach is certain to yield results important equally to social psychology and to psychiatry. This could be called " comparative psychiatry ". Madmen living in cultures markedly different from our own ought to be examined with the care that is given to mental disease as it occurs in European civilization. We might then know whether the aphorism, " human nature is the same everywhere," is a statement justifiable at the level of psychotic regression. The fact that in the East Indies there are two types of psychosis—*amok* and *latah* [1]—which are unknown in the Western world seems to argue against this view.

The psychiatrist could use ' comparative psychiatry ' in order to learn what kinds of symbols psychotics in different types of culture employ. Such information might also be useful to the anthropologist. In addition to the allegedly universal ' archaic ' symbols, there are those which are determined by what is obviously new. For instance, malignant influence exerted from a distance which twenty years ago was transmitted by ' electricity ' is now quite often carried by ' wireless '. The symbols utilized by patients often reflect current popular interests and are an expression of the dominant popular natural philosophy. Thus the form in which delusions are cast may throw light on accepted interpretations of nature in the community.

Finally, I should like to mention an admittedly fantastic possibility. Forty years ago ' common sense ', relying on obvious meanings, would never have allowed the possibility that a hodge-podge of nonsense uttered by an insane person could have any coherent significance. But the psychiatric technique described above shows that it has. Might not this method be adapted to anthropological material ? It may be supposed that there is, in a cultural group, some unity roughly analogous to personality in the individual. This ' personality ' has its ' interests ', which may be represented symbolically in forms that are, in their obvious meanings, entirely

[1] van Loon (7).

disparate. But they would have an equivalence as multiple representations of the same basic trends. Thus the coincidence of certain elements in a culture, which could not otherwise be accounted for, might be explained.

It will be noted that this suggestion is different from that of the theorist who accounts for the similarity of elements and their relations in widely separated cultures on the basis of 'human nature being the same everywhere' because that nature belongs to individual men. "All men are alike," the formula ought to read. What I suggest is, rather, a similarity between the 'personalities' of different social groups. In other words, there may be, in societies less complex than our own, a limited number of 'reaction types'. These would be integrations of group interests limited in their possible number. They would be patterns necessarily bringing together elements capable of symbolizing the interests. The simpler the life of these primitive communities, the oftener would there be coincidences in widely separated cultures. Arguing from the analogy of individual personality, we should expect the similarities to grow up and to persist only when the interests they represented were of significance for the 'personality'. If two widely separated cultures are found in which similar basic interests are demonstrable —interests that can be reconstructed as the product of simple appetitive and social tendencies—cultural similarities arising from these basic tendencies are to be expected. Should other similarities be found, which have no demonstrable connection with the basic interests, the hypothesis of diffusion must be invoked.

The notions of diffusion and evolution, as applied to human culture, are of interest to the psychopathologist. Arguing from the individual to the group—if that be justifiable—one could say that diffusion claims the establishment of a habit by some form of conditioning. Since the symptoms of hysteria can all be explained (so far as their immediate determination is concerned) on the basis of conditioning, no psychopathologist is likely to discard that principle. But there is a limitation. The bonds formed by conditioning melt away unless the elements combined by them have a similar, or complementary, symbolic significance for the patient. The chance word or sight imprinted on the memory is always found to have unconscious significance. If this principle be applicable in anthropology, we could say that only those elements would be

imported or borrowed together which had similar or complementary significance for the original culture or for the culture as thus modified. The coincidences would not be random, but significant. If this were conclusively shown not to be the case, a difference between the individual personality and its analogue in the group would be demonstrated.

Similarly the thoughtful psychopathologist is apt to be wary of generalizations taken over from his field to justify the theory of independent origins. It is true that patients, illiterate and unlikely to have learned of them, often employ the same symbols as those which appear in other countries and in historical records. But they also have many different ones. Until the similarities and differences have been classified in meaningful categories it is dangerous to carry over chance observations from the psychiatrist's field in order to explain anthropological phenomena.

It can hardly be said that there has been even a beginning of the type of research that would justify such a transfer. Basic human needs and the possible means of satisfying them are sufficiently simple to be duplicated very frequently in every human infancy. If the psychiatric coincidences are confined to symbols established at this period of individual development, there is nothing surprising in them. On the other hand, if they date from a later period, it will have to be shown by critical study whether the psychotic's symbols really are the same in widely different cultures. From those which are the same there would then have to be eliminated such as seem to be so natural as to be inevitable. There is nothing surprising in the widespread use of the snake as a phallic symbol. It would be difficult to think of any object in nature combining so many properties of the penis as does the snake. Real evidence will come when, and if, it is shown that a far-fetched symbolic significance is attached to identical objects in widely separated cultures. The psychopathologist is prone to consider the theories of both the diffusionist and the evolutionist too simple and too facile to be true.

REFERENCES

(1) Bleuler, E., " Freud'sche Mechanismen in der Symptomatologie von Psychosen," *Psychiatrisch-Neurologische Wochenschrift*, 1906, viii, Nos. 34–6.
(2) Freud, S., " Analyse eines Falles von chronischer Paranoia," *Neurologisches Zentralblatt*, 1896, xv, 10, 434–48.
(3) Hoch, A., " The psychogenic factors in the development of psychoses," *Psychol. Bulletin*, 1907, iv, 6, 161–9.
(4) Jones, Ernest, *Papers on Psycho-Analysis*. London : Baillière, Tindall, and Cox, 1913. pp. 432.
(5) Jung, C. G., *Ueber die Psychologie der Dementia praecox*. Halle : Carl Marhold, 1907.
(6) Kretschmer, E., *Physique and Character* (trans. W. J. H. Sprott). London : Kegan Paul, 1925. pp. 266.
(7) Loon, F. H. G. van, " Amok and Latah," *J. of Abnormal Psychol.*, 1927, xxi, 434.
(8) MacCurdy, J. T., *Problems in Dynamic Psychology*. Cambridge University Press, 1923. pp. 383.
(9) MacCurdy, J. T., *The Psychology of Emotion*. London : Kegan Paul, 1925. pp. 589.
(10) Meyer, A., " Fundamental conceptions of Dementia Præcox," *Brit. Med. J.*, 29th Sept., 1906, ii, 757–9.
(11) Tiling, T., " Individuelle Geistesartung und Geistesstörung," *Grenzfragen des Nerven- und Seelenlebens*, 1904, xxvii, 1–59.
(12) Trotter, W., " Herd instinct and its bearings on the psychology of civilized man," *Sociol. Rev.*, 1908, i, 227–48.

Chapter IV

MODERN TRENDS IN CHILD PSYCHOLOGY

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Rapid advances have been made in child psychology of late years, and many fruitful lines of investigation have been followed. It will be possible to select for discussion here only a few typical procedures. Much of the recent experimental work has been devoted to a study of the social behaviour and attitudes of children, and attempts have been made to trace these to their earliest appearance. There has been, in consequence, a focusing of interest on the pre-school child. This has necessitated modifications of technique in the study of some psychological problems, and the devising of new methods in the study of others.

In the present chapter, I propose, first, to discuss some of the current methods of child psychology, and then to indicate a few of the more important conclusions which have been drawn.

I. METHODS OF STUDY

J. E. Anderson (1) has recently listed fourteen methods which are being used in the study of the child. These comprise incidental observation, biography, systematic observation, questionnaire, psycho-analysis, case-history, direct measurement and simple tests, tests of complex functions, ratings, experiment, experiment involving random control groups, experiment involving paired control groups, control by statistical devices, and factor analysis. These methods are not mutually exclusive; their order in the list is said to be based on their relative complexity, the methods ranging from the simpler to the more complex, and from those permitting little or no control to those permitting a maximum degree of control of the factors involved. The list cited will not, however, be rigidly adhered to in the description of methods which follows.

The methods of incidental observation, of biography, and of the questionnaire were the earliest to be developed. Where they are applied, control of the conditions of the situation studied is almost entirely lacking.

A. BIOGRAPHIES

The biographical method was the principal one formerly employed. This gives a 'longitudinal' record of the development of a child, and consists in the recording of events day by day, as they take place in the child's life. The biographies collected by W. Preyer (58), M. W. Shinn (61), C. and W. Stern (68), and E. and G. Scupin (59) are among the most important. Such biographies are based on the careful but incidental observation of single children. While they helped to focus attention on problems awaiting investigation, they did not always yield accurate or scientifically valuable information. Some of the items were noted at the time of occurrence; others, however, were based on the memory of what had taken place, combined with subjective interpretation. As the conditions were, moreover, not controlled, and the stimuli not strictly determined, the limitations of these early biographies are clear. The best type of contemporary child biography includes the results of tests and of experimental procedure.

At the same time, many of the observations recorded in the early biographical studies are to-day being confirmed by other methods. Further, although uncontrolled biographies and incidental observations may not always be strictly accurate in detail, it is notable that, when considered together, they are found to agree fairly closely with respect to fundamentals. The time of appearance of the different items of behaviour recorded in different biographical studies, for example, may vary from child to child, according as to whether the child is bright or dull, but their order of appearance remains constant, a very significant and important fact.

B. SYSTEMATIC OBSERVATION

The method of systematic observation, which is now extensively used, shows a marked advance over the methods of incidental observation and biography, in that certain aspects of a situation are definitely selected beforehand for study. Detailed notes are

made about these during the period of observation, according to a pre-arranged plan.

In a modification of the method of systematic observation, the child's reactions in different situations, at home and at school, at spontaneous play and at controlled play, and so on, are compared. Very different results may be obtained under these different conditions. Thus D. McCarthy, in a study of language (43), compared the conversation of children when together in a nursery school during free play-hours with the conversation of each child isolated in a separate room, in the company of an adult who showed him toys and books. This procedure has been called the ' technique of situational analysis ', and is valuable because it makes use of natural situations, instead of forcing the child into the artificial atmosphere of experimentation, and also because it involves the study of the same child or group of children under different conditions.

The ' technique of time sampling ' is another useful device of recent development. The behaviour of children observed individually or in groups is recorded during set periods on successive days, a measure of the frequency of occurrence of any action or expression being thereby obtained. W. C. Olson (53) first used this method to study nervous traits in children. For five-minute periods he concentrated on observing a specific action, selected as being indicative of a nervous trait, as it occurred in a group of children. Here the child is again seen in a natural situation, and the observer is hidden from the child by a one-way vision screen.

Such a method yields objective results, provided the observer is reliable, and it also lends itself to quantitative treatment. The number of observations and the duration of the observation period which are required in order that definite conclusions may be drawn will vary with the behaviour studied. For certain items of behaviour the method is more satisfactory than for others.

L. B. and G. M. Murphy (51) point out that although the method of time sampling has been generally accepted, one must be sceptical of its value because it ignores the interplay of stimulus and response. If the observer is recording aggressiveness, for example, he cannot know, merely by observing the frequency with which one child pushes another, whether the action is due simply to aggression or to self-defence. Further, the aggressiveness may be the outcome of events

which occurred during a previous day or week. What is needed, he insists, is not a record of a series of behaviour items, but an account of total behaviour units. Any 'cross-section' method, therefore, requires amplification by records extending over a period of time, so that the quantitative estimate of the incidence of certain forms of behaviour may have a background to which it can be related.

The method of systematic observation may include experimental procedure. O. C. Irwin (32), in his study of new-born infants, not only recorded their behaviour according to a pre-arranged plan, but also obtained an objective record. During the period of observation, which was the first ten days of life, each child was placed on the platform of a 'stabilimeter'. This ensured that every movement was registered by two pens, one of which noted movements along the head-foot axis, the other movements along the right-left axis. Temperature, humidity, and lighting were kept constant. On the basis of the records obtained, Irwin was able to demonstrate that there was greater activity in the anterior than in other segments of the body on every day except the first, and that the head and adjoining parts gained in dominance over the extremities during the period studied. Mass activity, in which several parts of the body moved simultaneously, was also shown to predominate over segmental activity, in which the head, trunk, or a leg moved alone.

C. DEVELOPMENTAL SCHEDULES

In studying the development of pre-school children, several devices of great scientific value have been evolved, among them schedules of development. These take the place, for the younger child, of the intelligence tests which are applicable to older children, and they are based on experimental results combined with systematic observations. Their relevance is not confined, however, as in the case of intelligence tests, to intellectual development; they are concerned with the reaction of the whole personality. The chief workers in this field are A. Gesell (19) of Yale, and C. Bühler (5, 6) of Vienna.

Gesell's observational schedule extends from birth to about the fifth year. "The pre-school period exceeds all others in developmental importance. This period occupies approximately the first

seventy months of the scriptural allotment of seventy years—only one clock hour, reckoning the entire span of human life as a day. But during that hour the major portion of the total stream of development flows under the bridge " (p. 4).

In the first year of life, excluding the schedule for the neonate, three stages of development are recognized, occurring at four, six, and nine months of age respectively. Other developmental schedules are available for the ages of twelve, eighteen, twenty-four, thirty-six, forty-eight, and sixty months. Fifty children belonging to each age level were examined by Gesell, some at their homes and some at the Yale Psycho-Clinic. Norms have been established for motor development, language development, adaptive behaviour, and personal-social behaviour, for every stage. Each item is given a rating in the scale, which is useful for comparative purposes. Thus, persistence in reaching is tested by dangling a ring or some other object just a little outside the child's reach. At six months old, persistence in reaching is said to be found in from 20 to 40 per cent of babies, whereas at nine months old, it is found in from 65 to 84 per cent of babies.

Bühler also used both observation and experimentation in drawing up a developmental scale for pre-school children. Her scale is not intended to measure optimal performance, but to discover a child's natural, everyday mode of behaviour. The complete range of tests extends from birth up to the sixth year of life. Bühler, like Gesell, claims to study the whole personality, and a ' cross-section ' of the stage of development of any young child can be obtained by the application of her tests of sense perception, bodily control, social behaviour, learning, manipulation of material, and what she calls ' mental productivity ' (i.e. any striving towards a goal). A child's performance can also be represented in graphical form as a profile, which allows the height above or below normal of any one group of reactions to be seen at a glance.

Bühler's aim in devising these schedules can best be explained by means of one of her own illustrations. Suppose there are four children, *A*, *B*, *C*, and *D*, with ages ranging from one year to one year and three months. They are given, in turn, two sticks, and their subsequent behaviour noted. *A* does nothing with the sticks ; he merely looks at them without touching them. This reaction is then compared with his reactions in other test situations, in order

to determine whether the child is unable or unwilling to occupy himself with the particular material involved, or whether he is passive in all his reactions. If the latter, the child may be timid, or he may be afraid of objects as a result of lack of experience. *B*, on the other hand, takes both sticks, and rubs and hits one against the other, which has been found to be a normal reaction for his age. *C* takes one stick, waves it and strikes other objects with it. This response is common in a child of six months, and may therefore imply a retardation in development of about six months. *D* takes both sticks, and places them so that they form one continuous line. This is an advanced type of reaction for his age.

Developmental schedules are thus important in that they represent an approximate formulation of norms of behaviour. They can also be used to indicate rapidity of development in certain directions, and slowness of development in others, thereby aiding in the diagnosis of difficulties arising from retarded development.

M. Shirley (64) has suggested the use of the ' sequential method ' for studies of development. This is a modification of the biographical method, but with the advantage that a number of children can be observed, and that the observations are, for the most part, made by observers unrelated to the child. Shirley used this method in the study of twenty-five babies during their first two years of life, but suggests that it could be applied to greater numbers with equally reliable results.

The method involves an intensive study of each child from birth onwards. In Shirley's investigation, each infant was observed and tested in hospital daily for the first two weeks of its existence. After the mothers left hospital, two observers, a psychologist and a pediatrician, paid regular weekly visits to each home. Not only were observations recorded during each visit, but every child was tested in various ways. Anthropometric measurements were taken, and data collected relating to health, nutrition, and general physical well-being, motor co-ordination, sensory development, speech development, interest in objects (as shown by choice of toys and so forth), and behaviour and personality traits. The data concerning different children were comparable because the tests involved were applied to each child as each chronological stage was reached. The tests and observations were supplemented by daily notes made by the mother in answer to printed questions. In collating results,

the developmental significance of an item of behaviour was considered doubtful unless it was established at some time or other in 75 per cent of the cases studied.

The method of determining a sequence was to note, for each baby, the age at which each developmental item appeared. The medians were then determined, and the sequence made up by arranging the items in chronological order, according to the median age when they occurred. A very detailed sequence of motor responses has been obtained by this method, and attempts have also been made to draw up sequences for speech development, social development, and growth in comprehension.

Advantages of the method are that it can be applied in the familiar environment of the home, while nevertheless permitting of controlled conditions and a reasonably rigid experimental procedure. One great disadvantage for the investigators is, however, the amount of time required.

D. CONTROL GROUPS

The device of using control groups is well known in experimental procedure.[1] The individuals to be tested are chosen from two different groups, such as two classes at the same educational level. One group is subjected to a course of training connected with the subject which is under investigation, while the other, the control group, receives no such training. The two groups are then examined at the end of the training period, and their results compared.

This method of ' random control grouping ' may be made more precise if ' paired control grouping ' is substituted. Here the individuals are tested beforehand, and attempts are made to pair them off, so that the composition of test and control groups respectively is as nearly the same as possible. For example, if a certain mode of teaching arithmetic is to be tried out, a test of arithmetical ability is first given to all the children concerned. Then the children with similar scores are divided equally between the two groups, each child being paired off with another who is closely similar, as far as ability in arithmetic is concerned. The test group is then given special training in arithmetic by the method of teaching under investigation, the other group being taught in the usual way. Both groups

[1] Cf. Chapter VI.

are re-tested at the conclusion of the training. As the members of the two groups were originally equal, or very nearly equal, in arithmetical ability, a marked improvement which occurred in the test group alone could be attributed to the special training received, provided that other factors were known to have remained constant. Obviously, pairing may be effected according to any suitable criterion or group of criteria.

Gesell's technique of 'co-twin control' is even more precise. Identical twins are used as subjects, the one acting as a control against which to check the other's achievements. This technique has proved particularly fruitful in studies of development and maturation, but because of the scarcity of identical twins, its application is limited.

In an investigation carried out by this method, Gesell and H. Thompson (20) tested two girls, twins *T* and *C*, at intervals, from the age of four weeks to eighteen months, in order to determine, first, the degree of their developmental correspondence, and secondly, the degree of developmental divergence caused by specific training given to one of the twins.

The twins were given fifteen developmental examinations in all during the period of study. At every examination the twins showed great similarity of behaviour, and very few differences. At forty-four weeks, a more elaborate examination was made. The twins were seated back to back in a specially constructed crib, each twin being provided with a separate examination table. Detailed observations were made of each twin's movements and behaviour over a period of two hours. The first of the twenty-five protocols recorded shows the striking similarity between the twins. " *T* regards assistant, and *C* regards *E* (the examiner), and then after a while both regard *E*. *C* scratches table-top for a moment with left hand, *T* similarly also scratches a moment with the left hand. They turn from time to time to *E*. *C* reaches out and handles side rail. *T* does likewise. *T* shows more tendency to leave her present position when she approaches the side rail. There is no marked difference in their behaviour during this period of initial adjustment " (p. 36), and so on.

Because of this established identity of behaviour, it was decided to use one of the twins as a control, in order to determine the influence of training on the development of behaviour patterns.

At the age of forty-six weeks, both twins were " at the threshold of climbing activity ". It was decided to give twin *T* a course of training and then to compare her achievements in climbing with those of *C*, to whom no training would be given. At nine o'clock in the morning, on six days of the week for six consecutive weeks, the experimenter took twin *T* from the nursery into a room equipped with a clinical crib and an experimental staircase, and trained her in climbing. After four weeks of training, at the age of fifty weeks, she climbed the staircase without assistance. Two weeks later, at the age of fifty-two weeks, she climbed the staircase in twenty-six seconds.

Twin *C*, who was given no training, climbed the staircase unaided, at the age of fifty-three weeks, in forty-five seconds. She then received two weeks' training, after which she climbed it in ten seconds. Twin *C*'s achievement at fifty-five weeks was therefore far superior to that of twin *T* at fifty-two weeks, although the latter had been trained seven weeks earlier, and for three times as long. The greater maturity attained during three weeks of rapid development at this stage seems to be the only factor which can account for *C*'s superiority.

E. PHOTOGRAPHY

A very useful instrument in the developmental study of young children is the camera. The majority of contemporary investigations include not merely the results of tests and notes on detailed observations, but also photographic records. As a result, cinematographic films of the normal development of creeping, walking, prehension, and other skills are now available, as well as films on which two scenes have been recorded side by side, to illustrate, e.g., walking at two different age levels, thus facilitating comparisons.

Photographs are useful for confirming and correcting notes made during observation, and for recording permanently activities which can only be adequately analysed at leisure. They are valuable, also, as supplying objective data, which can be shown to others, whether with a view to checking conclusions or to imparting to students the significance and nature of facts which are to be observed in further studies. They are thus invaluable for teaching purposes.

Gesell employed the camera in drawing up his normative

schedules, and has assembled photographs of infants responding to the different test situations, as the first leaves of a clinical album. The reaction of any infant tested can, therefore, be compared with the appropriate photograph for scoring purposes. The study of the identical twins, *C* and *T*, described above, is not only reported in a monograph, but is documented by a film-slide of sixty-five photographic frames, covering the development of the twins up to the age of eighteen months.

Watson also recorded on cinematographic film his experiments on conditioning (79).

H. M. Halverson (25), working under Gesell, has carried out an experimental study of prehension in infants by means of a series of cinematographic records. The behaviour of twelve infants, ranging in age from sixteen to fifty-two weeks, was observed, while they were being given the Gesell cube test. Three principal forms of behaviour were of special interest: (*a*) the nature of the visual attention (regard) of infants, (*b*) the manner in which infants reach for (approach) the object, and (*c*) the manner in which infants grasp. From the photographic record, a much more exact analysis of these was made than would have been possible from observation alone. Ten types of grasp, for instance, were clearly differentiated, and arranged in an orderly sequence, consistent with the growth of the child. The first type is ' no contact ' made with the cube at sixteen weeks, followed by ' contact only ' at twenty weeks. The ' primitive squeeze ' comes next, in which the infant succeeds in pulling the cube towards him on the table, until he is able to squeeze it against the other hand, or the body. This is not yet a true grasp, however, for the hand does not grip the cube. At about twenty-four weeks, the first form of actual grasp occurs, the ' squeeze grasp ', when the hand, palm inwards, envelops the cube. At the moment of contact the fingers close on the cube so as to press it against the heel of the palm. This is still a clumsy grasp, and fails to raise the cube from the table. At twenty-eight weeks appears the ' hand grasp ' followed by the ' palm grasp ', the latter showing for the first time active thumb-opposition. The ' superior palm grasp ' appears at thirty-two weeks, when the cube has moved out from the palm towards the digits, and the ' inferior-forefinger grasp ' at thirty-six weeks, representing a marked advance in that the digits are beginning to act independently of the palm in

grasping. At fifty-two weeks the 'forefinger grasp' appears, which is essentially a finger-tip grasp. The 'superior-forefinger grasp' is similar, but the infant employing it does not need to place any portion of his hand on the table to help him in grasping the cube.

Halverson states that "the investigation demonstrates the applicability of the motion-camera for the study of infant behaviour".

Social behaviour has also been recorded on films, by Gesell, C. Bühler, Shirley, and others. Thus, two children may be placed together in an experimental crib and their mutual reactions both systematically observed and photographed. A toy may be placed between them, and their behaviour again recorded. Shirley arranged baby parties of three or four infants at a time, in test situations, the whole procedure being photographed.

F. CLINICAL RECORDS

An offshoot of developmental and observational methods is the case history or clinical method, which has proved one of the most fruitful in child study. Primarily, it is used as a method of diagnosis in the case of children who are maladjusted and have, in consequence, developed some form of undesirable or anti-social behaviour. It has gradually come to be realized that deviations from normal behaviour, no matter how small in degree, are caused by a lack of adjustment between the child, on the one hand, and his environment, or part of his environment, on the other.

If the environment at home, in school, or elsewhere, is making too great a demand on the child, or if some factor in the child himself—such as a poor physique, an unstable temperament, or a dull intellect—makes adjustment to life rather difficult, some form of deviation of conduct is likely to ensue. With a very young child, temper tantrums or night terrors may occur; with an older child, moodiness, sulkiness, outbursts of anger, day-dreaming, or a desire for solitude are characteristic traits which may appear or become intensified. Definite anti-social or delinquent conduct, such as lying, stealing, or running away, may also result. These 'symptoms', whether trivial or serious, are indications of maladjustment and require to be treated as such. It is generally found that surface treatment is futile, and that matters can be remedied

only when the underlying factors which have produced the symptoms are fully understood.

For this purpose, an all-round picture of each child must be obtained, such as a clinical or case history alone can supply. In addition to studying the child himself, data are collected from his school or place of employment, and from his home, his parents, and any other source likely to yield relevant information. Of recent years, excellent results have been achieved whenever a team of specialists have worked together, the team usually consisting of a psychologist, a psychiatrist, a pediatrician, and a social worker.[1]

This is essentially the method of ' Child Guidance Clinics ', which have been established in order to diagnose and treat behaviour disorders in children. In these clinics team work and co-operation are emphasized, for no one specialist, however skilled, can see every side of a problem. Dissension in the home may make the child intractable at school, or retardation at school may cause what appear to be physical ailments, or a misuse of leisure may cause difficulties all round. A picture of the whole child is essential, and this is possible only when each specialist contributes his share to the investigation.

Although the application of clinical methods is generally confined to studies of the so-called ' problem child ', such case histories aid materially in the understanding of normal children, as every clinical worker would agree. Conversely, a knowledge of normal children and their psychology—essential to every psychologist and psychiatrist working in the child guidance field—helps to place any deviation from the normal in its proper perspective.

Pioneer works, like W. Healy's *The Individual Delinquent* (27) and C. Burt's *The Young Delinquent* (11), based in each case upon the writer's own experience, illustrate the high value of this kind of investigation for a scientific social psychology. Both authors discuss the main factors causing maladjustment and their interplay, the relation of intelligence to maladjustment, the part played by physical and emotional factors, the influence of heredity, the days and hours when offences are habitually committed, the chief types of offences, and so forth. Many other workers have added their quota to the clarification of these and other problems. In consequence a large body of knowledge is already available regarding

[1] Cf. Chapter XV.

children's fears; modes of sleeping and eating; undesirable habits; difficulties facing the adopted or illegitimate child and the step-child; the rôle played by leisure time and the influence of the cinema; factors in the school situation, such as educational retardation or speech defects; the effects of poverty, of lack of discipline or satisfactory parental relationships in the home, and many allied topics.

Thus the clinical method, besides aiding diagnosis and being of practical service to the community, is also an important instrument of research.

G. PLAY

Play has always been recognized as a prerogative of children of all ages. Different writers have discussed different aspects of play, the biological, the psychological, and the genetic. The biological aspect is represented by Karl Groos' theory that play is a preparation for life, the psychological by the Schiller-Spencer theory that play is an outlet for superfluous energy, and the genetic by the theory of Stanley Hall that the child, as it passes from one type of play to another, is recapitulating the earlier stages of man's evolution.

But clinical workers regard play from still another point of view, and stress its value for diagnostic and therapeutic purposes. Indeed, the 'play method' makes an important contribution towards child psychology. It is a method for the highly skilled specialist alone, however, for in inexperienced hands it may do the child incalculable harm.

As is well known, ordinary play gives us insight into children's temperaments and characters. If it takes place in a play-room such as we find in Child Guidance Clinics, we gain even more insight, for the play is unrestricted, the child being permitted to use any toy and to do whatever he wishes. Both solitary play, in the presence of the observer only, and play when three or four children are in the room simultaneously, may be studied.

From observation alone it is possible to learn a great deal, and to obtain clues to any emotional conflict which is causing disturbance. The child's attitude towards other children, the type of toy he chooses, his method of play or his inability to play, may all indicate the best lines of treatment to the trained observer.

Special kinds of material can be made available in the play-room. M. Lowenfeld distinguishes between ' inchoate ' material, such as water, sand, dough, clay, plasticine, and all modelling substances, and ' choate ' material, which consists chiefly of a ' world ' composed of miniature toys representing human beings, animals, both wild and tame, trees, houses, etc. Lowenfeld maintains that the child's difficulties can be interpreted on the basis of the world he erects on the tray of sand with which he is supplied.

Drawing constitutes an important aid in diagnosis. Free drawing with coloured crayons or chalks often yields amazing results, and gives insight when other methods fail. An outstanding instance in the writer's experience was the case of a boy of six who, when asked to draw something, said, " I'll draw you a story." Each of four ' stories ', which were drawn one after the other, was accompanied by descriptive comments and contained the same features: murders, murderers, corpses, policemen, snakes, and pits. Although the drawings were executed with apparent satisfaction, the excessive speed of execution and the accompanying remarks revealed an underlying terror.

Recent investigations, such as that of R. Griffiths (24), show that the problems confronting the normal child in his daily life may appear symbolically in his drawings. The drawings vary from day to day as the problem increases in intensity, gradually clears up, or takes on a different complexion.

Play therapy is a more serious matter than mere diagnosis, and is generally undertaken only in the case of difficult, ' problem ', or neurotic children. It is based on the theory that the child is able to work out his emotional conflicts through expression in play, so that an easing of tension results. For instance, a child who is jealous because of the arrival of a baby brother, who has usurped his place in the family, may succeed in openly expressing his pent-up hatred or dislike in his behaviour towards an innocent doll, or, as some believe, towards the observer, treating them as he would like to treat the object of his antagonism. In this way a strong emotion is thought to be transferred from the real cause, the play being a form of ' abreaction ' or cleansing. The application of such a method clearly requires great skill and care if it is to give positive results.

Play therapy is used by some psycho-analysts when treating

children, instead of the more usual psycho-analytic methods, the play being interpreted from the psycho-analytic point of view. M. Klein (39) writes: " The child expresses its phantasies, its wishes and its actual experiences in a symbolic way through play and games. In doing so, it makes use of the same archaic and phylogenetic modes of expression, the same language, as it were, that we are familiar with in dreams, and we can only fully understand this language if we approach it in the way Freud has taught us to approach the language of dreams. . . . The whole kaleidoscopic picture, often to all appearances quite meaningless, which children present to us in a single analytic hour—the content of their games, the way in which they play, the means they use (for sometimes they will assign the various roles to their toys, sometimes to themselves), and the motives behind a change of game . . . all these things are seen to have method in them and will yield up their meaning if we interpret them as we do dreams " (pp. 29–30).

Many clinical workers, however, use the play-room technique both for diagnosis and for therapy without adopting Freudian interpretations.

H. EXPERIMENTS

Finally, modern child study may supplement the methods already indicated by experimental procedure; even new-born infants are now studied by means of tests evolved in the psychological laboratory. I. F. Wagner (77) reports results derived from the use of pneumographic records in a study of the hiccough of infants ranging in age from one to ten days. The same investigator (76), in a study of the body-jerk, subjected 197 neonates to tactual, pain, olfactory, and auditory stimuli.

Various ingenious devices have been employed in the analysis of walking movements. In R. H. Burnside's (8) investigation, the subjects walked, or were assisted to walk, along a path of muslin, inked with a mixture of black printing ink, reducing varnish, and petrol, which was covered with thin brown paper. Each step of the child could thus easily be traced. Another investigator (75) provided the subjects with overshoes containing tiny ink-wells and pens, whereby graphic records were obtained. Shirley (63) lightly greased the feet of the infant observed with olive oil, and this left marks on the strip of

unglazed white paper, twelve inches wide, along which he was induced to walk. The oil print records were later brushed over with a powder consisting of lamp black, graphite, and powdered acacia, so that the footprints should stand out clearly. The records were then measured in order to determine the length, angle, and distance of the steps, in order to ascertain the nature of the progress made at different ages.

Many experiments have been carried out with a view to determining the sensitivity of the different special senses at birth, and the extent of the new-born child's reflex endowment. Similar investigations have been made in the case of fœtuses, at different stages of development.

The establishment of conditioned reflexes in the infant has been studied by various workers, including N. I. Kasatkin and A. M. Levikova (37). As the salivary gland is not very active during the first three months of life, these experimenters utilized sucking movements instead. The conditioned stimulus was the sound of an organ pipe, and the unconditioned stimulus, a feeding bottle containing milk. The experiment was rigidly controlled, and the sucking and breathing movements were recorded on a kymograph. It was found that conditioned alimentary reflexes appear in response to auditory stimuli during the first half of the second month. In the formation of this conditioned reflex the chief factor is not the number of stimulations, but the age of the child.

Many other investigations have been reported; see, e.g., *A Handbook of Child Psychology*.[1]

II. RESULTS

The discussion of methods has illustrated present-day activity in child psychology, and indicated some of the general types of results which are being obtained. A large quantity of data is undoubtedly being accumulated, but the outstanding impression derived from a rapid survey is of a somewhat disordered array of experimental and test results, statistics, and minute observations. It is often difficult to understand with what aim a particular investigation has been undertaken, or what importance should be assigned to the conclusions which are claimed to have been established. In

[1] Worcester, Mass.: Clark University Press, 1933. pp. 956.

certain fields, however, generally accepted results appear to have been reached, and attention will now be drawn to two of these.

A. SPEECH AND LANGUAGE

1. *The Acquisition of Language*

Since speech and language are socially of great importance, their acquisition by the child is a very significant step.

The first cry made by a child, the ' birth cry ', occurs when the air enters its lungs for the first time and is forced out with a strong expiration. The screaming or crying which occurs after a few days is initially quite undifferentiated. After a few weeks some differentiation seems to take place, for experienced mothers and nurses can distinguish the cries arising from different conditions such as hunger or thirst, fatigue, physical discomfort, and so on.

At about the end of the second month, or the beginning of the third, babbling begins, and from this develops all use of spoken language. This babbling is regarded by K. Bühler (7) as " *the instinctive sound-material of all human languages*, in which as yet our children are indistinguishable from Chinese, Eskimo or negro babies " (p. 52). During the first year, the sounds produced by babbling gradually increase in variety, and include not only all the sounds used in language, but also many sounds which do not appear in any language. Careful observations have been made by Preyer (58) on these points. E. A. Esper (15) suggests that, as far as is known, " any human infant could acquire with approximately equal facility the special sounds of any language " (p. 437).

The impulse to babble is very strong, and the child seems to carry on this vocal play, or babbling monologue, simply for the sheer joy which he derives from it. At a later stage, discrimination of sounds takes place, and speech gradually acquires meaning.[1] This is partly achieved by imitation of sound-sequences. The Sterns (67) record the first cases of imitation of sound-sequences, which are said not to have previously occurred in babbling, at eight or nine months. It is difficult, however, to be confident that such sounds have not already occurred.

The Sterns also draw an important distinction between ' echolalia '

[1] For a detailed account of this development see (40).

and ' metalalia '. The former is the imitation of sounds immediately after hearing them; the latter is the repetition of sounds heard frequently, but not immediately before the first reproduction. Hilde, a child observed by the Sterns, heard the greeting " *Gute Nacht* " every evening. At the age of one year and ten months she unexpectedly said " *Nacht* " one evening, before it was said by any one else. There is no evidence, however, that the phrase had not been implicitly said by the child when heard on previous occasions. Lewis (40) suggests that whenever a child hears a spoken sound there is a tendency for him to speak, although this may frequently be inhibited. " Now, on a subsequent occasion, he either experiences a similar pattern of events or reinstates the original pattern: in both cases this reinstatement including a revival of the implicit utterance which accompanied the original experience. If the present incentive is strong enough, this implicit utterance finds expression and the child breaks into speech. In a word, it is not that the child remembers hearing a sound which he now reproduces, but rather that he reinstates his *total perception* of the sound, this perception including both the hearing of the sound and the implicit utterance of it " (p. 97).

J. Drever (14) reports the case of a child whose speech appeared full-blown at sixteen months without any previous period of babbling. In this instance also implicit speech was probably present.

The whole question of imitation of sound-sequence is highly controversial, and further research is needed. Preyer, for example, believes that no imitation occurs before comprehension of language takes place, whereas J. Sully maintains that a period of meaningless sound-imitation is the forerunner of language in the true sense.

The fact that a child utters a word aloud is no guarantee that he has learned the meaning of the word. The word can be safely regarded as having meaning for the child only when he shows by his actions that he comprehends what the word stands for, yet this point does not always seem to have been kept in mind by those making observations on language development. Even the apparent association of a name with an object, e.g. of ' bow-wow ' with a dog, is no evidence of the presence of language as a system of meanings.

Comprehension of language, which normally occurs in the last month of the first year, always precedes the use of language proper.

A child may understand and react to involved sentences before he himself is capable of the simplest verbal expression. In the case of some children the first ' intelligent ' or ' meaningful ' word may be uttered at the age of nine months, although with others it may not occur until much later. There are marked individual differences, and factors in the environment may cause delay. Thus if a child uses gestures freely, and these are responded to, the incentive to use words is diminished. When the appearance of speech is delayed, retardation of mental development is generally suspected. Such retardation is, however, present only when the delayed speech is accompanied by a lack of comprehension of language.

A child's progress in language is in part shown by the amount of increase in his vocabulary. At first only a few words are responded to or employed. For example, the average child of twelve months possesses, according to Gesell, a vocabulary of not more than three or four words. It is generally assumed that after this initial stage rapid progress takes place, but periods of acceleration seem to alternate with periods of delay. Shirley (62) found that before and after the acquisition of any motor act there was a slowing down of vocal utterances. " From twenty-five to thirty weeks both the median and the average number of utterances increased in frequency, but they decreased sharply at thirty-one weeks, which represented the median age for sitting alone, and remained low at thirty-three and thirty-four weeks. From thirty-five to forty-two weeks there was another increase in median utterances, and a momentary slump at forty-two weeks, the median age for creeping. After the median age of walking (sixty-six weeks) the median number of utterances increased rapidly and far exceeded pre-walking records " (pp. 69–70).

Many studies have been made of the vocabularies possessed by children at different stages in their early development. The methods of recording the vocabularies have varied, however, to such an extent that the conclusions put forward are not always comparable one with another. Studies of individual children have been made by Preyer, Scupin, the Sterns, Drever, Shirley, and others. In an extensive study of 273 children, M. E. Smith (66) showed that, whereas a child of eight months possessed no words, at six years the possession of 2,562 words was in no way unusual, and she assessed the average annual gain in words from two to six years of age at 472. Yet from Smith's results it is also clear that, at the beginning,

the acquisition of words is very slow. Thirteen children eight months old had no words, seventeen children tested at ten months had an average vocabulary of one word, and fifty-two children tested at twelve months had an average vocabulary of three words. M. M. Nice (52) reports a case in which two words were acquired at sixteen months, but no others until four months later. There is evidently, then, a slow period, followed by a period in which a rapid acquisition of words takes place.

But a record of individual words is no more than a study of the acquisition of the crude materials of language, since the functional unit of language is undoubtedly the sentence. If we accept Stout's definition of language as " an instrument of conceptual analysis and synthesis ", we must exclude sounds which merely express feeling or emotion, as well as sounds which are only imitative. Attempts to count the number of words uttered by a child in his early years do not, therefore, throw much light upon his effective vocabulary, in so far as the language function proper is concerned.

L. Terman (70), who tested older children and adults, gives the following standards for different years, his criterion being the vocabulary reached by 60 to 65 per cent of the subjects at each level.[1]

Age or status	*Vocabulary*
8 years	3,600 words
10 ,,	5,400 ,,
12 ,,	7,200 ,,
14 ,,	9,000 ,,
Average adult	11,700 ,,
Superior adult	13,500 ,,

One factor which increases the size of a child's vocabulary during his second year is the discovery that everything has a name. This is illustrated in the case of Helen Keller (38), who was both blind and deaf. Miss Sullivan had commenced to teach her the finger alphabet, and writes: " We went out to the pump house, and I made Helen hold her mug under the spout while I pumped. As

[1] A vocabulary test for older children or adults is generally drawn up by selecting, say, a hundred words from a dictionary in a haphazard manner, e.g. by taking the first word on every tenth page. The subject is asked to define as many words as he can. His total vocabulary is assessed by multiplying the number of correct definitions by the total number of words in the dictionary and dividing the product by 100.

the cold water gushed forth, filling the mug, I spelled ' w-a-t-e-r ' in Helen's free hand. The word coming so close upon the sensation of cold water rushing over her hand seemed to startle her. She dropped the mug, and stood as one transfixed. A new light came into her face. She spelled ' water ' several times. Then she dropped on the ground and asked for its name and pointed to the pump and the trellis, and suddenly turning round she asked for my name. . . . All the way back to the house she was highly excited, and learned the name of every object she touched, so that in a few hours she had added thirty new words to her vocabulary ". This process of naming occurs in the case of every normal child.

Drever (14) has described a child who, before speech was present, found great satisfaction in hearing the names of objects. In the middle of the fourteenth month (speech appeared in the sixteenth) one of the child's chief delights was to get someone to name for him the various objects in the room. The child made no attempt to name the objects himself, but pointed to one after another, again and again, passing to the next when the name was spoken.

As regards sex differences in vocabulary, girls are found to be superior to boys at all ages, and they also begin to speak at an earlier age. Differences in social status are also consistently connected with the extent of the vocabulary. A. Descoeudres (13), for instance, studied the vocabularies of children, aged from two to seven, drawn from working class families and from the homes of the educated classes. The latter showed an advance averaging approximately eight months at each stage. There is no suggestion that the children from the working class homes are of inferior mentality. The discrepancy is explicable by the relative lack of opportunity and cultural background.

J. C. Smith (65) examined the vocabulary of five-year-old children in three schools in Glasgow. The investigation showed that the *English* vocabulary of a slum child of five (as contrasted with his native vocabulary of Scottish words) did not extend beyond two or three dozen words. In such cases there is a very great difference between the child's home and school vocabularies. The child has to learn what is practically a new language when he goes to school.

Another method of studying vocabularies is by attempting a qualitative analysis in terms of the various parts of speech. At the two year age-level, during the period immediately following the

naming stage, 50 to 60 per cent of the words used are nouns. As the total vocabulary increases, the proportion of nouns to the other parts of speech decreases. Drever (14), comparing the vocabularies of his own three children with those of slum children at a kindergarten, concluded that any expansion in a child's environment tends to increase the proportion of nouns relatively to other parts of speech. To classify children's vocabularies in this manner is difficult, however, since a word normally used as a noun, for example, may often, especially when uttered by children, stand for a whole sentence.

A practical application of research on the size and range of vocabularies at different ages is found in the construction of some of the more modern reading books used in schools.

2. *The Functions of Language*

Several important investigations have been concerned with the functions of language.

McCarthy (44) points out that " the old grammatical classification of sentences into declarative, imperative, interrogatory and exclamatory sentences was a crude attempt at an analysis of language according to its function, which has served fairly well for written language " (p. 352).

An outstanding contribution to the analysis of language, particularly spoken language, has been made by J. Piaget (56, 57). Although he has been adversely criticized, much of the recent work in this field has been stimulated by his investigations.

For about a month Piaget and an assistant recorded in minute detail the conversations, with their contexts, of two boys, both six and a half years of age, at the *Maison des Petits de l'Institut Rousseau*. In this school the pupils are given complete freedom to work, or play, when, where, and how they please. Later the conversations of a group of twenty children between four and seven years of age were also recorded. Other notes consisted mainly of the answers given by children to questions put to them by adults.

Children's thinking, according to Piaget, develops in well-marked stages, each stage being a result of maturation. The earliest type is ' autistic ' thinking, which is characterized by imagination and phantasy. This is followed by egocentric thinking, which lasts until the child is seven or eight years of age. After this stage

verbal understanding begins, and the child emerges as a social being.

Piaget's basic classification of speech is into two categories, egocentric and socialized. When the child is using egocentric speech, he does not care to whom he is speaking or whether anyone is listening. He talks largely about himself, and any person who happens to be present may serve as an audience. Egocentric speech is subdivided into three categories: (1) repetition (echolalia), or talking for the sake of talking; (2) monologue, or talking to oneself as though thinking aloud; (3) dual or collective monologue, in which another person acts as a stimulus for the talking, although there may be no speaking on his part.

Socialized speech, on the other hand, is a definite form of social intercourse. Piaget subdivides it into: (4) adapted information, in which the child exchanges his thoughts with others; (5) criticism, i.e. remarks about the work or behaviour of others, but more "affective than intellectual, that is, they assert the superiority of the self and depreciate others" [1]; (6) commands, requests, and threats; (7) questions; (8) answers.

The 1,500 remarks recorded for each of the two children first studied were analysed by Piaget according to the above classification. Perhaps the most interesting result is the large proportion of egocentric speech revealed: 37 per cent in the case of one child and 39 per cent for the other. The 'coefficients of egocentricity', that is, the proportions of egocentric language (the first three categories) to spontaneous language (the first seven categories), are ·47 and ·43 respectively. This result was later confirmed by Piaget from his observations on the group of twenty children, for whom about 800 responses were recorded.

Piaget concludes that "children think and act more egocentrically than adults, that they share each other's intellectual life less than we do".[2] This he considers to be due, in the first place, to a general lack of sustained social intercourse between children under seven or eight years of age, and, in the second place, to the fact that the language used by a child, especially in play, is one of gestures, movement, and mimicry.

Piaget further observed that, up to the age of five, the children

[1] (57), p. 10. [2] (57), p. 38.

almost always worked or played alone. From the age of five to about seven and a half, groups of not more than two individuals were formed, but these were of varying constitution. Finally, between seven and eight years of age, he found evidence of a desire to work or play with others. At this stage the child's conversation also became less egocentric.

Piaget's conclusions have, however, been challenged. McCarthy (45), in a carefully controlled experiment on a larger number of children, found the proportion of egocentric responses to be from 3 to 6 per cent, in contrast to Piaget's 38 per cent. The discrepancy may be partly explained by differences in the mode of classification of the responses, and by the different conditions which prevailed while the children were under observation. Yet when McCarthy (43) repeated the experiment with the children in free-play situations, instead of, as in the first case, recording conversations with the experimenter about toys and books, the percentage of egocentrism only increased to 6·32. Other investigations have yielded conflicting results, and some support Piaget, but the majority seem to offer evidence which is in opposition to his findings.[1]

F. L. Goodenough (22) repeated McCarthy's experiment, and tried to assess the degree of egocentricity by noting the number and type of pronouns used by children (aged from two and a half to five and a half years), both under controlled conditions (in a room with the observer only) and when engaged in free play with other children. Pronouns of the first person singular occurred with far greater frequency during free play with other children than in conversation with an adult, where, as the experimenter points out, the child feels less need to assert himself. From this investigation it is inferred that, since the immediate situation has an important effect on the form and content of speech, the validity of any general conclusions drawn is limited by the nature of the conditions in which the observations were made.

[1] One of the difficulties seems to lie in the connotation Piaget attaches to the term ' egocentric '. For the child may be talking about himself, and yet his remark may be highly socialized. A more acceptable definition of egocentrism, and one which seems to express what Piaget himself means, would be ' lack of objectivation '. If this were the criterion of egocentrism, there might not be such a great divergence of view with regard to Piaget's conclusions.

When, as in the case of some of Piaget's work, material is obtained from children's answers to questions asked by an adult, it should be remembered that a child is at a disadvantage when the conversation and questioning are formal. Different results may be expected when speech is more spontaneous.

In a recent paper by M. Henle and M. B. Hubbell (28) the criterion of egocentricity adopted is not disregard for the listener, but reference to the speaker himself. These investigators wished to test the assumption that adult conversation is less egocentric than that of children. Their method was to note spontaneous conversations between adults, who were unaware that their remarks were being recorded. The percentage of egocentric remarks for 3,342 subjects (men and women) worked out at 40·7, almost the same figure as that obtained by Piaget for young children. The authors conclude that " in view of these results, the investigations of children's conversations should be interpreted with caution. The present study shows that adults talk about themselves, their activities, and their views, to as great an extent as do children. This is not to say, however, that children are as ' socialized ' as adults. The adult asserts his ego in a different way from the child. He does so by statements of activities, interests, and personal opinions, and not typically by expressions of ' personal power ', of ' display ', of ' defence of his feeling of ownership ', or ' resistance to interference ' . . . growing self-consciousness does not imply a concomitant decrease of concern with the self " (pp. 232–3).

S. Isaacs (33) does not agree with Piaget's view that the thinking of children before the age of seven or eight is characteristically egocentric and non-social, and cites examples of social behaviour and speech from among the group of young children whom she and her assistants studied at the Malting House School, Cambridge. In fact she states that one child did not pass through an egocentric stage at all.

The true mark of the egocentric attitude, according to Isaacs, is that the *presence* of other children is recognized, but not their personalities or independent purposes. Two main features characterize the egocentric situation. The first is the domination by phantasy over the form and aim of any joint play activity, and the second is the limitation of other children's roles to a minimum. As an example of this she records that when one boy, who wanted

to use a potter's wheel, asked another to turn the handle for him, he remarked, " And when *your* arm gets tired, I'll get someone else to turn it ! " (p. 217).

Isaacs has noted that the play of a group of young children is expressed in individual phantasies. Occasionally these may overlap, and co-operative play occur. At other times, however, there may be a conflict between phantasies. Each child is then forced to recognize differences between what he treats as real and what others are treating in the same way, and to begin to learn the mechanism of social adjustment. When another child rebels against assuming a minor role, or accepting a ready-made phantasy, this " brings the first shocks to his egocentric assumptions and provides his first effective social education " (p. 217).

Piaget maintains that egocentrism handicaps the young child's thinking in various ways. Thus it may prevent him from appreciating the character and importance of social relations such as that of brotherhood, as illustrated by the following incident. Raoul, aged four years and six months, is asked, " Have you any brothers ? " He answers, " Gerald ". He is then asked, " And has Gerald a brother ? " to which he replies, " No, only me has a brother." " Oh, come ! Hasn't Gerald got a brother ? " continues the experimenter. " No, he hasn't got one," is the final reply.[1]

Egocentricity is also held to account for the ' intellectual realism ', ' juxtaposition ', ' syncretism ', and ' transduction ', which are regarded as characteristic of children's thinking.

' Intellectual realism ' is the tendency on the part of a child to see objects as he imagines them to be, and is the opposite to ' verbal realism ', or the capacity for objective observation. This tendency is treated as a partial explanation of the early stages in the development of children's drawings, when the child, instead of drawing a faithful copy of the model before him, draws rather what he knows about it, copying an ' inner model '.

' Juxtaposition ' is the tendency to put side by side in the mind things and events which are related in a very close or impressive manner. By this process erroneous conclusions may be reached. An illustration is again provided by children's drawings, in which an eye is sometimes put beside a head. In a test given by Piaget to

[1] (56), p. 84.

reveal this tendency the subject is told: "If this animal has long ears, it is a mule or a donkey; if it has a thick tail it is a mule or a horse. Well, this animal has long ears and a thick tail, what is it?" Piaget has found that boys even ten or eleven years of age will "add up the conditions and juxtapose the classes instead of excluding the unwanted elements". As a result they reach the conclusion that the animal is equally likely to be a horse, a donkey, or a mule.

'Syncretism' is the tendency to assume causal connections between phenomena merely because they are simultaneously perceived. In an example cited, the child believes that the sun does not fall down "because it is hot. The sun stop there." How? "Because it is yellow." Or if a pebble is put into a glass of water and a child is asked why the water has risen, his explanation may consist merely of a description of what has happened. Most people would probably admit, however, that similar explanations are often attempted by adults.

'Transduction,' a term used by Stern as well as by Piaget, describes the tendency to argue from particular to particular, without reference to any general proposition. The child is said to be concerned with individual cases only, and to make no attempt at generalization.

An interesting series of experiments which bear on some of these points has been carried out by V. Hazlitt (26). Not being convinced of the accuracy of Piaget's conclusions, and particularly of his assertion that the young child is unable to understand logical relations, she gave individual tests to 88 children, ranging in age from three to seven years, with a view to establishing the presence or absence of this ability. For one experiment she used a nest containing eggs of different colours. These were laid out before the subject, who was asked to put them all back *except* the green one. The youngest children (as well as dull older children) simply played with the material. Slightly older children put all the eggs back, including the green one, either because they forgot, or because they did not understand the instructions. They were then given a second trial, with altered instructions in which the word *except* was omitted; i.e. they were told, "Put them all back but not the green one." Many of those who had failed before were now successful.

This experiment showed that whereas the children tested did not

act in accordance with the instructions if one form of words was used, they did so when the form of words was slightly different. Hazlitt writes : " Is it then legitimate to assume that the whole core of thinking lies in being able to attach the given process to the word *except* rather than to any equivalent that the child may have ? " (p. 356).

In another experiment Hazlitt used coloured and ornamented cards, mixed with twelve black ones of the same size, and five smaller black ones. The child being tested was told that some of the cards were called '*K* ', and that he must notice, as the cards were put down, one by one, which were called '*K*'. The experimenter then called out '*K*' whenever she put one of the large black cards down on the right-hand side of the subject, but kept silent when putting down the small black cards and the coloured cards on his left. Next the cards were mixed up and dealt out again, one at a time, the child being instructed to call out '*K*' for the cards which had been so named before. The children who responded correctly were thereupon asked how they would tell someone else which were the '*K*'s '. The following conversation on this topic is regarded as typical :

Subject : " The blacks are '*K*'s '."
Experimenter : " All the blacks ? "
Subject : " Yes."
Experimenter : " Is this small one '*K*' ? "
Subject : " No."
Experimenter : " Is it black ? "
Subject : " Yes."
Experimenter : " Then are all the blacks '*K*'s ' ? "
Subject : " Yes."

Thus, while some of the children could react correctly to the difference, they were unable to formulate it verbally. Only very bright seven- or eight-year-old children could express the distinction in verbal terms.

Griffiths (24) has also studied the psychology of children's thinking. By interview and clinical methods she has sought to gain from the spontaneous conversations, drawings, dreams, and phantasies of children some insight into their modes of thought. Her subjects ranged in age from five to five and a half years.

Griffiths concludes that phantasy makes a substantial contribution to intellectual development. She agrees with the psycho-analytic

theory that phantasy may supply an outlet for emotion and also that it has a compensatory function, but she stresses another function as equally important. Imagination is, she considers, the child's method of solving the problems presented by the environment. " Phantasy is the means by which he overcomes environment, learns gradually to face reality, brings about development. Phantasy seems to be the very essence of primitive thinking. It is the child's method *par excellence* " (p. 173).

Piaget's discussion of children's ' why's ', of their view of the universe, their animism, the development of their conceptions of causality, and other problems have also aroused interest and controversy. For his exposition of these topics see (56), (57), and three of his other works, listed under " Suggestions for general reading " at the end of this chapter.

B. EMOTION

Murphy, Murphy, and Newcomb write : " The experimental study of the social behaviour of infants may be said to date from the study of J. B. Watson at the Phipps Clinic at Baltimore, 1917–1920. The attempts to define the emotional make-up of the new-born and to demonstrate the reality of conditioned emotional responses in infants are of the most outstanding importance ".[1]

Watson (80) observed a number of infants during the first months of their existence, placed in situations which had been devised to evoke emotional reactions. As a result of his research, he maintains that only three emotions belong to the original equipment of the infant : fear, rage, and love. Only two stimuli elicit the fear reaction, namely loud noises and withdrawal of support. Rage is produced when there is any hampering of the child's movements. Love is the response to stroking or manipulation of some erogenous zone.

1. *Fear*

The view that at this early stage a fear response can be produced by two stimuli only, has attracted much attention. A typical example of child behaviour, as recorded by Watson, may illustrate the experimental basis of his belief. A girl infant, 165 days old,

[1] *Experimental Social Psychology*, New York : Harper, 1937, p. 255.

was confronted in turn with a black cat, a pigeon, a rabbit, and a white rat, but she showed no sign of fear of any kind. When 172 days old, she was taken into a dark room with only a faint electric light behind her, and was held by a stranger. No fear was evinced even when various animals were introduced into the room. A few days later she was tied in a small chair and screened off so that she could see no one. When a dog and other animals were placed before her in turn, she continued to reach for them, and even when the dog began to bark and jump at the leash, no fear was evident.

Watson concludes from such experiments that all fears, apart from the two already mentioned, are acquired through experience. How is it, then, that objects or situations which originally did not produce fear later come to do so? This is brought about, he considers, by emotional conditioning.

The concept of conditioning is linked with the name of I. P. Pavlov (16, 54). His typical experiment, often cited, relates to the conditioning of the salivary responses of a dog to food. Normally, when food is eaten, saliva is secreted, and by inserting a cannula into the duct of the parotid gland it is possible to count the number of drops. In the first stage of the experiment a bell is sounded just before the animal is fed. To begin with, the bell causes no reaction apart from a pricking up of the ears, but on each subsequent trial with the bell, which is always followed by food 30 seconds later, the behaviour of the dog becomes more and more active. As soon as the bell sounds, it may, for instance, begin to lick its chops. Presently it is found that twenty seconds after the bell has sounded, and before any food is given, one drop of saliva is secreted, thus indicating that a 'conditioned reflex' is beginning to appear. The next time, some saliva may be secreted ten seconds after the bell has sounded, and the quantity may have increased to three drops, and so on. The sound of the bell becomes more and more a substitute for the original stimulus.

With human subjects it is also found that the ringing of a dinner-bell causes 'watering' of the mouth. The sight of food, or even a picture of food, or the smell or name of a food, may produce the same effect.

Watson, however, was the first to apply this technique to the study of emotional behaviour. His experiments (81) on conditioning with a child called Albert aroused widespread interest. Albert was

eleven months old, and was described as a rather stolid and phlegmatic child. From the time of his birth he had lived in a hospital under continuous observation. His only fear reactions had been experimentally found to be those evoked by the two types of stimuli already mentioned, loud sounds and lack of support; apart from this he had never shown fear of any animal, person, object, or situation presented to him.

In the conditioning experiments a white rat was first introduced. As Albert was reaching out to stroke it, a harsh sound was made behind the child, who immediately showed the emotional response characteristic of fear. When this procedure had been repeated a few times, at intervals, the fear of the sound seemed to be transferred to the sight of the rat, until finally the sight of the rat alone caused the child to retreat hastily, whimpering and crying. Moreover, this fear reaction, it was found, was produced not only by rats, but also by similar animals, such as a rabbit, and to a slight extent even by a dog. A fur coat, cotton wool, and a Santa Claus mask also elicited fear.[1] Thus conditioning, according to Watson, explains many of the seemingly unreasonable fears of children.

The results of an experiment by Sherman (60) throw some doubt on Watson's conclusions. A cinematographic record was made of infants responding to four types of stimuli: hunger, being dropped suddenly, restraint, and pain. This was shown to medical and non-medical students, nurses, and others, who were asked to name the emotions depicted. There was a complete lack of agreement among the observers. If the stimulus was also shown, however, there was more agreement, indicating that knowledge of the stimulus to a certain extent suggested the nature of the appropriate response. In an additional experiment the stimuli were shown linked with the wrong reactions, and from the results it is evident that information about the stimulus influences the naming of the reaction. Clearly the infants' responses to the stimuli used were not sufficiently differentiated to be identified, at least from photographs.

C. W. Valentine (72) criticizes Watson's conclusions on many grounds. He suggests that although a fear may not show itself at an early age, its appearance later is not necessarily due to experience, and Watson has, indeed, failed to allow for the possible maturation of

[1] Watson has published photographs of these reactions (79).

an emotion in the course of a child's life. The fact that infants four or five months old showed no fear of the animals presented to them " offers no proof that there was not, lurking within, the germ of an innate fear which was not to ripen until ten or twelve months " (p. 397).

The role of maturation in altering emotional patterns has been emphasized by H. E. and M. C. Jones (34). In their experiment, a snake of a harmless variety was shown to different groups of subjects, including fifty children and ninety adults. Children up to two years of age showed no fear of the snake ; by the age of three and a half, however, cautious reactions began to appear. Definite avoidance of the snake occurred often after the age of four, and was most pronounced with the adult subjects. The writers suggest that the evoking of the fear reaction depends not only on the occurrence of changes in the environment which demand sudden adjustments, but also on the child's level of development. " As a child develops, his intelligence innately matures, and his perceptions become enriched through experience. New things startle him because of his keener perception of the fact that they are new and unusual. . . . Fear arises when we know enough to recognize the potential danger in a situation but have not advanced to the point of complete comprehension and control of the changing situation " (p. 276).

Factors in the environment of the older children might already have caused conditioning, however, and have certainly been operative in the case of adults ; the results of the experiment are, therefore, not conclusive, as the authors themselves admit. Gesell (18) devised a somewhat better type of experiment, observing the behaviour of infants of different ages when confined in a small pen. " At ten weeks the child may accept the situation with complete complaisance ; at twenty weeks he may betray a mild intolerance, a dissatisfaction, persistent head-turning and social seeking, which we may safely characterize as mild apprehension ; at thirty weeks his intolerance to the same situation may be so vigorously expressed by crying that we may describe the reaction as fear or flight " (p. 656). But again, complete control of the environment was lacking, and conditioning may well already have taken place.

Valentine's observations on his own children (72) show that familiarity with sounds lessens the original fear response. The tearing of paper caused a fear reaction on the first occasion at the

age of 52 days, but resulted in mere interested watching when the stimulus was repeated. From similar observations it appears that surprise or suddenness is essential, in addition to loudness, if fear is to be aroused. M. C. Jones (34) also stresses the element of suddenness and unexpectedness in fear-exciting situations, and in fact describes it as the one common factor. When the child is required to make a quick adjustment to an unfamiliar stimulus, the response made is what she calls ' chaotic ' fear.

Further, as Valentine and Jones have shown, the child is not reacting to the stimulus as such, but to the whole situation. The presence or absence of an adult who has the child's confidence is important in determining the type of reaction which the child will give. In other words, the social situation is another influential factor which should not be overlooked.

Albert's fear of the rat, Valentine suggests, was easily established partly because an unawakened tendency to fear the rat was already present. Valentine supports this contention by citing the results of an experiment conducted on one of his own daughters, who was then twelve months of age. The child was first allowed to handle a pair of opera-glasses for a moment or two, and then a loud whistle was blown behind her. The infant turned towards the source of the sound, but exhibited no fear. A woolly caterpillar was now substituted for the opera-glasses ; instead of handling it, however, she repeatedly turned away. When the whistle was blown this time she gave a scream. The whistle, therefore, aroused only a slight interest in the first experiment, but a strong reaction in the second. The explanation offered is " that the attitude towards the caterpillar was a very *unstable* one, ready to be changed to great excitement and fear. . . . The loud whistle, in itself undisturbing, provided just the slight added shock to make the fear of the caterpillar burst forth " (p. 407).

To rid a child of a fear, Jones has devised a method of reconditioning (35), in which a pleasing or approved stimulus is associated with the stimulus producing the fear. If an animal is feared, the child may be allowed to observe other children playing with it fearlessly, and in course of time his own fear may diminish and disappear. The animal may also be shown to the child individually, first at a distance and during meal-times. The animal is then brought nearer each day, until the child becomes accustomed

to its presence. The elimination of one fear apparently diminishes fear for similar objects ; thus after the disappearance of the fear of a rabbit, the fear reactions previously evoked by woolly and furry objects generally were found to have ceased.

2. *Anger*

Goodenough (21) has studied anger in young children on the basis of daily records, kept by forty-five mothers, relating to anger episodes in the home. The frequency of outbursts of anger by the same child was found to vary with two types of factor, called by the investigator ' intrinsic ' and ' extrinsic '. The ' intrinsic ' type includes such factors as fatigue, constipation, or inadequate sleep. ' Extrinsic ' factors include visits by strangers to the home, visits by the child to places outside the home, and the advent of a new toy, a new food, or a new playmate. Age, the level of development of the child, and the family situation were also seen to be closely related to anger episodes. Anger was recorded most frequently in the case of children between the ages of three and four.

3. *Smiling and Laughing*

R. W. Washburn (78) has made a study of smiling and laughing reactions in fifteen infants, during the first year of life. Smiling had already appeared before the eighth week, when she first came into contact with the children, and had been noticed by the mothers for some time. It was thoroughly established by the end of the first year, and in most cases the smile was a social response. Laughter occurred much later, the earliest instance being noted at sixteen weeks.

Washburn also noted that, up to the twentieth week, smiling could be readily elicited in response to smiles on the part of the experimenter (in a controlled experiment), but from the twentieth to the fortieth week an increasing number of negative responses occurred. This period coincides, the writer suggests, with the period of increasing " awareness of strangers ".

4. *Social and Emotional Development*

Scales for the study of the social and emotional development of pre-school children have been drawn up as a result of important

observations carried out by K. M. Bridges (3). These observations were made, over a period of three years, on a group of fifty children attending a nursery school.

Social behaviour is analysed by Bridges under two headings, according to whether it involves behaviour with other children or behaviour with adults. Descriptions of a few types of social behaviour with other children are here quoted from her scale. Both positive and negative forms of a characteristic are indicated, because refraining from certain behaviour may be a sign of development. The more developed type of behaviour is always described by the first alternative, the less developed by the second[1]:

The child HAS *or has not :*

1. Played with another child.
2. Spoken to another child.
3. Occasionally made social contact by touching or pushing a child.
4. Imitated other children's actions.
5. Imitated children's words.

The child has NOT *or has :*

19. Turned away to avoid another child's friendly advances.
20. Usually stayed out of group marching or games.
21. Claimed others' toys.
22. Interfered with others' work.
23. Destroyed others' work.

Types of emotional behaviour are treated in six sections, under the headings: distress and tears; fear and caution; anger and annoyance; delight and affection; excitement and enuresis; mannerisms and speech anomalies. The following descriptions are quoted from the section dealing with ' distress and tears ':

The child has NOT *or has :*

1. Cried on arrival at school.
2. Cried when left by guardian at school.
3. Cried on arrival of guardian to take home.
4. Cried when undressed on entering school or in physical examination.
5. Cried at the toilet.

[1] Bridges gives a detailed description of each item in her book (3) with methods of scoring and norms.

The child HAS *or has not :*

29. Choked back sobs in attempt to control tears.
30. Changed tears to smiles of own accord in a few seconds.

The child HAS *or has not,* without crying :

31. Called out when hurt by knock or fall.
32. Remained silent when hurt by knock or fall.
33. Rubbed bump without exclaiming at hurt or fall.

This scale is not designed to produce quantitative measurements of emotional development, although the scores obtained may " indicate the grosser differences in emotional development between certain children, and the scores on the separate sections may show the emotional trends of particular children. The scale is, therefore, of greater value for qualitative studies " (p. 89).

Both scales seem to give a clear picture of social and emotional development, respectively, in early years. They are valuable to clinical workers, to whom the knowledge of a child's stage of emotional development may be all-important. They should prove equally valuable to teachers in nursery schools and kindergartens, and to parents, in that they indicate to some extent, at least, the lines along which a normal child develops in these two directions.

As a result of her research, Bridges has advanced a genetic theory of emotion. There is primarily, she believes, a basic, undifferentiated emotion which she terms ' excitement ', and which is aroused by any strong stimulus or call to action. Within a very short time, perhaps even less than a day, this ' excitement ' becomes differentiated into two general types of emotion, distress and delight. In due course distress is again differentiated into fear, anger, and jealousy, and delight into joy and affection. These emotions all characterize the pre-school age. Later, but still in early childhood, elation, hope, shame, disappointment, anxiety, disgust, and pain are experienced, and later still, depression, envy, revenge, and sexual affection. Bridges holds that the way in which the emotions develop in any one individual depends to a large extent on early experience. " Thus it seems probable that an excitable or emotional child, with favourable opportunity for varied experience and with training in the organization of drives and behaviour generally, might develop into a forceful character and an effective personality. The same child, however, if he had

a preponderance of distressing or over-exciting experiences in early life, and if he failed to develop organized interests and drives, skills in action and useful social behaviour, might become a handicapped psycho-neurotic or even a psychotic in late years " (p. 211).

Bridges also points out that one of the first reactions of a newcomer to a group is to ' hit out ' and watch the effect. This kind of behaviour is not so much characteristic of a given age, as indicative of the length of time a child has played with other children. He usually soon discovers that such behaviour causes distress both to others and to himself, and learns to make an impression in other, more popular, ways.

In the social relations of children with adults, three stages can be distinguished. In the first the child is passive and relies on adults for assistance. The second stage is one of resistance to adult influence and of striving for independence, and it reaches its height when the child is between two and a half and three years of age. The third stage, normally attained between four and five years of age, is one of self-reliance, in which the child begins to co-operate with adults in a friendly way.

To assess a child's stage of development, whether social or emotional, at least a month's observation may be said to be essential.

5. *Introversion and Extraversion*

L. R. Marston (46) studied introversion and extraversion in one hundred children, aged from two to six years. Fifty-six children comprised the main experimental group, the remaining forty-four the control group. A new rating-scale for determining degrees of introversion and extraversion [1] was devised, and the results for individual children were given in profile form. From this analysis, three general types appeared: the introvert, the extravert, and the ' ambivert '.

An attempt was then made to assess degrees of introversion or extraversion in reactions to experimental situations. The experiments were so arranged that they seemed to the child to be natural situations.

Thus, in experiment one, the child's first meeting with *E* (the

[1] See Chapter IX for a discussion of the limitations of such scales.

experimenter) is noted. *E* is seated at a low table with an attractive toy, and busies himself with the toy and his notes, ignoring the presence of the child for sixty seconds. Some children try to attract attention during this period of indifference, others do not. Next *E* looks up at the child but does not smile, and again busies himself with the toy and his books, for thirty seconds. Then he looks up once more, this time smiling at the child. After another thirty seconds he asks the child if he would like to play with the toy, and so on. Some children react to *E*'s later advances by withdrawing into themselves and raising a protective barrier of reserve or negativism.

An analysis of the children's responses revealed six different types of reaction with respect to social resistance, which could be clearly differentiated. These may be summarized as follows:

Type	*Description*	*Extraversion Score*
1.	Child refused unyieldingly to play with the toy, or fled from the room	0
2.	Child refused at first, but played with the toy after considerable urging	1
3.	Child accepted the offer to play with the toy after receiving assurances from the experimenter, or accepted with marked hesitancy of manner	2
4.	Child promptly accepted the offer to play with the toy, without assurances or urging from the experimenter	3
5.	Child made advances to the experimenter, but did not approach him at once or play with the toy before being recognized by the experimenter	4
6.	Child did not wait for recognition, but promptly approached the experimenter and played with the toy	5

Experiments were also devised to measure 'degree of compliance', 'degree of caution,' 'degree of interest', and 'degree of self-assertion'. The experiment to test 'degree of caution' proved unsatisfactory as a measure of introversion-extraversion, but the others all gave results which appeared to be significant. Each child's reactions to these four experiments (excluding that for 'degree of caution') were numerically expressed, and their sum was treated as the total 'extraversion score'. These scores ranged from 1 to 18 for the boys and from 1 to 15 for the girls, out of a possible range of from 0 to 20, thus showing wide individual variation in degree of introversion and extraversion.

6. *Expression of the Emotions*

It is generally assumed that each emotion has its own characteristic facial expression (12), and that these expressions are so well-defined that they can easily be identified. Facial expressions and gestures are, indeed, freely used in conveying and understanding feelings and motives. Yet the very young child seems unable to recognize differences between facial expressions. C. Bühler reports, for instance, that babies three months old may respond to scolding with definite signs of amusement. The interpretation of facial expressions is apparently a social response which must be learned. An experiment by G. S. Gates (17) demonstrates that a child's ability to identify emotional states from photographs of facial expressions increases as he grows older.

The recognition of specific emotions by means of their vocal expression seems to yield more consistent results. Children who listen to the alphabet being recited in tones of anger, fear, surprise, etc., can identify the emotional states which it is intended to convey with fair accuracy, and here again identification improves with age.

C. OTHER TOPICS

Many other problems of general psychology have been investigated with regard to their manifestations in children. In addition, special studies have been made of the gifted (29, 69), the feeble-minded (71), the maladjusted (11, 27), the adolescent (4, 30), and the primitive child (47, 48). Research has also been carried out in the field of applied psychology, relating, for instance, to the fatigue effects of school subjects and the results which may be achieved by a rearrangement of the curriculum. School subjects themselves have been studied. In reading, to take one example, measurements of the span of perception and experiments on eye-movements (73, 74) have been shown to have great practical significance. Attempts have recently been made to assess the influence of the radio and the cinema on the minds of children. In many branches of child psychology, therefore, a large body of knowledge is available.

These studies undoubtedly throw light on the factors affecting the adjustment of the child as a social being to his human environment. The socializing process cannot be regarded in isolation. While it is primarily dependent on the nature of the adjustment

the child makes to situations in his environment, this in turn depends upon the successful functioning of his whole endowment. If any part of this is deficient, or undeveloped, the socializing process may be temporarily delayed, or permanently warped.

REFERENCES

(1) Anderson, J. E., "The methods of child psychology," *A Handbook of Child Psychology* (ed. C. Murchison), 2nd ed. Worcester, Mass.: Clark University Press, 1933, chap. 1.

(2) Bentley, J. E., *Superior Children*. London: Allen and Unwin, 1933. pp. 331.

(3) Bridges, K. M., *The Social and Emotional Development of the Pre-School Child*. London: Kegan Paul, 1930. pp. 277.

(4) Brooks, F. D., *The Psychology of Adolescence*. Cambridge, Mass.: The Riverside Press, 1929. pp. 652.

(5) Bühler, C., *From Birth to Maturity*. London: Kegan Paul, 1935. pp. 237.

(6) Bühler, C., and Hetzer, H., *Testing Children's Development from Birth to School Age*. London: Allen and Unwin, 1935. pp. 191.

(7) Bühler, K., *The Mental Development of the Child*. London: Kegan Paul, 1930. pp. 170.

(8) Burnside, R. H., "Co-ordination in the locomotion of infants," *Genet. Psychol. Mon.*, 1927, ii, 279–372.

(9) Burt, C., *The Backward Child*. University of London Press, 1937. pp. 694.

(10) Burt, C., *The Subnormal Mind*. Oxford University Press, 1935. pp. 368.

(11) Burt, C., *The Young Delinquent*. University of London Press, 1925. pp. 643.

(12) Darwin, C., *The Expression of the Emotions in Man and Animals* London: John Murray, 1904. pp. 397.

(13) Descoeudres, A., "La mesure du langage de l'enfant," *J. de Psychol.*, 1924, xxi, 43–54.

(14) Drever, J., "A study of children's vocabularies," *J. Exp. Ped.*, 1915, iii, 34–43, 96–103, 182–197; 1919, v, 28–37.

(15) Esper, E. A., "Language," *A Handbook of Social Psychology* (ed. C. Murchison). Worcester, Mass.: Clark University Press, 1935, chap. 11.

(16) Frolov, Y. R., *Pavlov and his School*. London: Kegan Paul, 1938. pp. 291.

(17) Gates, G. S., "A test for ability to interpret facial expressions," *Psychol. Bull.*, 1925, xxii, 120.

(18) Gesell, A., "The individual in infancy," *The Foundations of Experimental Psychology*, 1st ed. London: Oxford University Press, 1929, chap. 16, 628–660.

(19) Gesell, A., *The Mental Growth of the Pre-School Child*. New York: Macmillan, 1925. pp. 447.

(20) Gesell, A., and Thompson, H., "Learning and growth in identical twins," *Genet. Psychol. Mon.*, 1929, vi, 1–124.
(21) Goodenough, F. L., *Anger in Young Children*. Minneapolis: University of Minnesota Press, 1931. pp. 278.
(22) Goodenough, F. L., "The use of pronouns by young children," *J. Genet. Psychol.*, 1938, lii, 333–346.
(23) Goodenough, F. L., and Anderson, J. E., *Experimental Child Study*. New York and London: Century, 1931. pp. 543.
(24) Griffiths, R., *Imagination in Early Childhood*. London: Kegan Paul, 1935. pp. 367.
(25) Halverson, H. M., "An experimental study of prehension in infants by means of systematic cinema records," *Genet. Psychol. Mon.*, 1931, x, 107–286.
(26) Hazlitt, V., "Children's thinking," *Brit. J. Psychol.*, 1930, xx, 354–361.
(27) Healy, W., *The Individual Delinquent*. Boston: Little, Brown, 1920. pp. 830.
(28) Henle, M., and Hubbell, M. B., "'Egocentricity' in adult conversation," *J. Soc. Psychol.*, 1938, ix, 227–234.
(29) Hollingworth, L. S., *Gifted Children: their Nature and Nurture*. New York: Macmillan, 1926. pp. 374.
(30) Hollingworth, L. S., *The Psychology of the Adolescent*. London: King, 1930. pp. 255.
(31) Huey, E. B., *The Psychology and Pedagogy of Reading*. New York: Macmillan, 1909. pp. 469.
(32) Irwin, O. C., "The amount and nature of activities of newborn infants under constant external stimulating conditions during the first ten days of life," *Genet. Psychol. Mon.*, 1930, viii, 1–92.
(33) Isaacs, S., *Social Development in Young Children*. London: Routledge, 1933. pp. 480.
(34) Jones, H. E., and Jones, M. C., "A study of fear," *Child Educ.*, 1928, v, 136–143 (Quoted from Jones, M.C., in *A Handbook of Child Psychology* (ed. C. Murchison), 2nd. ed. Worcester, Mass.: Clark University Press, 1935, chap. 6).
(35) Jones, M. C., "The elimination of children's fears," *J. Exp. Psychol.*, 1924, xii, 382–390.
(36) Jones, M. C., "A laboratory study of fear," *Ped. Sem.*, 1924, xxxi, 303–315.
(37) Kasatkin, N. I., and Levikova, A. M., "On the development of early conditioned reflexes and differentiations of auditory stimuli in infants," *J. Exp. Psychol.*, 1935, xviii, 1–19.
(38) Keller, H., *The Story of My Life*. London: Hodder and Stoughton, 1903. pp. 441.
39) Klein, M., *The Psycho-Analysis of Children* (trans. A. Strachey), 2nd ed. London: Hogarth Press and Institute of Psycho-Analysis, 1937. pp. 393.
(40) Lewis, M. M., *Infant Speech*. London: Kegan Paul, 1936. pp. 335.
(41) Lowenfeld, M., "A new approach to the problem of psycho-neurosis in childhood," *Brit. J. Med. Psychol.*, 1931, xi, 194–227.
(42) Lowenfeld, M., *Play in Childhood*. London: Gollancz, 1935. pp. 345.

(43) McCarthy, D., " A comparison of children's language in different situations and its relation to personality traits," *Ped. Sem.* and *J. Genet. Psychol.*, 1929, xxxvi, 583–591.
(44) McCarthy, D., " Language development," *A Handbook of Child Psychology* (ed. C. Murchison), 2nd ed. Worcester, Mass.: Clark University Press, 1933, chap. 8.
(45) McCarthy, D., " The language development of the pre-school child," *Univ. Minnesota Inst. Child Welfare Mon. Series*, No. 4. Minneapolis: University of Minnesota Press, 1930. pp. 174.
(46) Marston, L. R., " The emotions of young children," *Univ. Iowa Stud. in Child Welfare*, 1925, iii, No. 3, pp. 94.
47) Mead, M., " An investigation of the thought of primitive children, with special reference to animism," *J. Roy. Anthrop. Inst.*, 1932, lxii, 173–190.
(48) Mead, M., " The primitive child," *A Handbook of Child Psychology* (ed. C. Murchison), 2nd ed. Worcester, Mass.: Clark University Press, 1933, chap. 24.
(49) Miller, N., *The Child in Primitive Society*. New York: Brentano's, 1928. pp. 312.
(50) Monroe, M., *Children Who Cannot Read*. University of Chicago Press, 1932. pp. 205.
(51) Murphy, L. B., and Murphy, G. M., " The influence of social situations upon the behavior of children," *A Handbook of Social Psychology* (ed. C. Murchison). Worcester, Mass.: Clark University Press, 1935, chap. 22.
(52) Nice, M. M., " A child that would not talk," *Ped. Sem.*, 1925, xxxii, 105–142.
(53) Olson, W. C., " The measurement of nervous habits in normal children," *Univ. Minnesota Inst. Child Welfare Mon. Series*, No. 3. Minneapolis: University of Minnesota Press, 1929. pp. 97.
(54) Pavlov, I. P., *Conditioned Reflexes* (trans. G. V. Anrep). London: Oxford University Press, 1910. pp. 430.
(55) Pavlov, I. P., *Lectures on Conditioned Reflexes* (trans. W. H. Gantt). New York: International Publisher, 1928. pp. 414.
(56) Piaget, J., *Judgment and Reasoning in the Child*. London: Kegan Paul, 1924. pp. 257.
(57) Piaget, J., *The Language and Thought of the Child*. London: Kegan Paul, 1926. pp. 246.
(58) Preyer, W., *The Mind of the Child*. New York: Appleton, 1883, pt. I, pp. 346; 1890, pt. II, pp. 317.
(59) Scupin, E., and Scupin, G., *Bubis erste Kindheit*. Leipzig: Grieben, 1907. pp. 264.
(60) Sherman, M., " The differentiation of emotional responses in infants. I. Judgments of emotional responses from motion picture views and from actual observation," *J. Comp. Psychol.*, 1927, vii, 265–284.
(61) Shinn, M. W., " Notes on the development of a child," *Univ. California Publ. in Educ.*, 1893–1899, i, 1–4, Pt. I, pp. 424; 1907, ii, Pt. II, pp. 258.

(62) Shirley, M., *The First Two Years.* Minneapolis: University of Minnesota Press, 1931, i, pp. 227; 1933, ii, pp. 513; 1933, iii, pp. 228.
(63) Shirley, M., "Locomotion and visual-manual functions in the first two years," *A Handbook of Child Psychology* (ed. C. Murchison), 2nd ed. Worcester, Mass.: Clark University Press, 1933, chap. 5.
(64) Shirley, M., "The sequential method for the study of maturing behaviour patterns," *Psychol. Rev.*, 1931, xxxviii, 507–528.
(65) Smith, J. C., *Report of the Committee of Council on Education in Scotland*, 1905–6 (quoted from R. R. Rusk, *Experimental Education.* London: Longmans, 1912. pp. 303).
(66) Smith, M. E., "An investigation of the development of the sentence and the extent of vocabulary in young children," *Univ. Iowa Stud. in Child Welfare*, 1926, iii, No. 5, pp. 92.
(67) Stern, C., and Stern, W., *Die Kindersprache.* Leipzig: Barth, 1922. pp. 434.
(68) Stern, W., *Psychology of Early Childhood up to the Sixth Year of Age* (trans. from 6th German ed. by A. Barwell), 2nd ed. London: Allen and Unwin, 1930. pp. 612.
(69) Terman, L. (ed.), *Genetic Studies of Genius*, 2nd ed. London: Harrap, 1926. i, pp. 647; ii, pp. 841; iii, pp. 508.
(70) Terman, L., *The Measurement of Intelligence.* London: Harrap, 1919. pp. 362.
(71) Tredgold, A. F., *Mental Deficiency*, 2nd ed. London: Baillière, Tindall and Cox, 1914. pp. 491.
(72) Valentine, C. W., "The innate bases of fear," *J. Genet. Psychol.*, 1930, xxxvii, 394–420.
(73) Vernon, M. D., "The movements of the eyes in reading," *Med. Res. Council Spec. Rep. Series*, No. 148. London: H.M. Stationery Office, 1930. pp. 45.
(74) Vernon, M. D., "Studies in the psychology of reading," *Med. Res. Council Spec. Rep. Series*, No. 130. London: H.M. Stationery Office, 1929. pp. 40.
(75) Vierordt, H., *Der Gang des Menschen.* Tübingen: Laupp, 1881 (quoted from Shirley (62)).
(76) Wagner, I. F., "The body-jerk of the neonate," *J. Genet. Psychol.*, 1938, iii, 65–77.
(77) Wagner, I. F., "A note on the hiccough of the neonate," *J. Genet. Psychol.*, 1933, lii, 233–234.
(78) Washburn, R. W., "A study of the smiling and laughing of infants in the first year of life," *Genet. Psychol. Mon.*, 1929, vi, 397–537.
(79) Watson, J. B., *Psychological Care of Infant and Child.* London: Allen and Unwin, 1928. pp. 159.
(80) Watson, J. B., *Psychology from the Standpoint of a Behaviourist*, 3rd ed. Philadelphia and London: Lippincott, 1929. pp. 458.
(81) Watson, J. B., and Rayner, R., "Conditioned emotional reactions," *J. Exp. Psychol.*, 1920, viii, 1–14.

SUGGESTIONS FOR GENERAL READING

Allport, G. W. (ed.), " Special language number," *Psychol. Bull.*, 1929, xxvi, 241–340.
Baldwin, B. T., " Child psychology," *Psychol. Bull.*, 1928, xxv, 629–697.
Baldwin, B. T., and Stecher, L. I., *The Psychology of the Pre-School Child.* New York : Appleton, 1924. pp. 305.
Blanchard, P., *The Child and Society.* London : Longmans, Green, 1928. pp. 369.
Blatz, W. E., and Bott, H., *The Management of Young Children.* London : Dent, 1931. pp. 354.
Boyd, W., " The development of a child's vocabulary," *Ped. Sem.*, 1914, xxi, 95–124.
Bradbury, D. E., " The contribution of the child study movement to child psychology," *Psychol. Bull.*, 1937, xxxiv, 21–38.
Drever, J., and Drummond, M., *The Psychology of the Pre-School Child.* London : Partridge, 1929. pp. 222.
Drummond, M., *The Gateways of Learning.* University of London Press, 1931. pp. 190.
Eng, H., *The Psychology of Children's Drawings.* London : Kegan Paul, 1931. pp. 223.
Gates, A. J., *The Improvement of Reading.* New York : Macmillan, 1927. pp. 440.
Glueck, S., and Glueck, E. T., *One Thousand Juvenile Delinquents.* Harvard University Press, 1934. pp. 341.
Hazlitt, W., " Modern trends in child psychology," *Brit. J. Educ. Psychol.*, 1931, i, 119–129.
Hazlitt, W., *The Psychology of Infancy.* London : Methuen, 1933. pp. 149.
Healy, W., and Bronner, A. F., *New Light on Delinquency and its Treatment.* New Haven : Institute of Human Relations, Yale University Press, 1936. pp. 226.
Isaacs, S., *Intellectual Growth in Young Children.* London : Routledge, 1930. pp. 370.
Issacs, S., *The Psychological Aspects of Child Development.* London : Evans, 1935. pp. 45.
Koffka, K., *The Growth of the Mind.* London : Kegan Paul, 1928. pp. 427.
Murphy, G., Murphy, L. B., and Newcomb, T. M., *Experimental Social Psychology.* New York : Harper, 1937. pp. 1121.
Murphy, L. B., *Social Behaviour and Child Personality.* New York : Columbia University Press, 1937. pp. 344.
Nice, M. M., " The development of a child's vocabulary in relation to environment," *Ped. Sem.*, 1915, xxii, 35–64.
Parten, M. B., " Leadership among pre-school children," *J. Abn. Soc. Psychol.*, 1933, xxvii, 430–440.
Parten, M. B., " Social participation among pre-school children," *J. Abn. Soc. Psychol.*, 1932, xxvii, 243–269.
Piaget, J., *The Child's Conception of Causality.* London : Kegan Paul, 1930. pp. 305.

Piaget, J., *The Child's Conception of the World.* London : Kegan Paul, 1929. pp. 398.
Piaget, J., *The Moral Judgment of the Child.* London : Kegan Paul, 1932. pp. 438.
Sayles, M. B., *The Problem Child at Home.* New York : Joint Committee on Methods of Preventing Delinquency, 1928. pp. 352.
Sayles, M. B., *The Problem Child in School.* New York : Joint Committee on Methods of Preventing Delinquency, 1926. pp. 288.
Seth, G., and Guthrie, D., *Speech in Childhood : its Development and Disorders.* London : Oxford University Press, 1935. pp. 224.
Strayer, L. C., " Language and growth," *Genet. Psychol. Mon.*, 1930, viii, 209–319.
Sully, J., *Studies of Childhood.* London : Longmans, Green, 1896. pp. 527.
Valentine, C. W., " The foundations of child psychology and their bearings on some problems of general psychology," *Brit. Ass. Adv. Sci.*, Bristol Meeting, 1930, Presidential Address (Section J), 176–190.
Valentine, C. W., " The psychology of imitation with special reference to early childhood," *Brit. J. Psychol.*, 1930, xxi, 105–132.
Wickman, E. K., *Children's Behaviour and Teachers' Attitudes.* New York : The Commonwealth Fund Division of Publications, 1928. pp. 247.

CHAPTER V

PROBLEMS OF TERMINOLOGY IN THE SOCIAL SCIENCES

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I. INTRODUCTION

The meaningful questions which may be discussed in connection with any subject matter are of two kinds: *verbal problems*, whose solution depends on determining the use of words, and *factual problems*, whose solution depends on the determination of some question of fact. It has been characteristic of the scientific as opposed to the philosophical tradition in the social sciences that it has led to a dislike of discussion of verbal problems. The directing of attention to the facts of the social sciences rather than to ways of talking about them is almost wholly desirable. Words are, nevertheless, the tools of all science, and a certain amount of attention must be given to tools, although it is altogether good that such attention to tools should be regarded as a means, and not as an end, of social investigation.

There is undoubtedly much confusion in social psychology and sociology resulting from the fact that there is little agreement about vocabulary. Differences in the use of words lead to disputes where no real question of fact or of interpretation of fact is at issue. A reasonably adequate formula for the kind of unprofitable discussion most common in the social sciences is to be found in the statement that it is discussion of verbal problems as if they were problems of fact. One object of attention to terminology is that it should enable us to avoid this kind of discussion.

A study of the writings of psychologists and sociologists reveals very little agreement in their use of the standard terms of social

psychology. Such terms as 'group', 'crowd', 'community', and 'association' are often used and defined differently by different authors. Not infrequently the use and the definition by the same author are found to differ. H C. Warren's *Dictionary of Psychology* (11) is of very little help in resolving this confusion. The main defect of its definitions of social psychological terms is that terms with similar meanings seem to have been defined by different authors without any attempt at relating the definitions to one another. Thus several terms may be given almost identical connotations, while it may be difficult to find any terms for certain ranges of social fact.

II. SOCIAL GROUPS

The most frequently used term in social psychology is 'group'. This is generally used for any set of people, possessing any degree of internal unification or of distinctness from the social environment. Both the internal unity of a group and its distinctness (or segregation) from the social surroundings may exist to any degree. Thus there is no sharp dividing line between those sets of individuals which are, and those which are not, sufficiently unified or sufficiently segregated to be called 'groups'. Such absence of a sharp dividing line between conceptions indicated by terms is, of course, common in social psychology, as in all biological sciences. Definitions cannot, therefore, delimit exactly the application of terms, but can only indicate the typical data to which terms are, and those to which they are not, to be applied, while leaving intermediate zones for which their appropriateness must remain doubtful.

The above definition makes it clear that the term 'group' is applicable to the sets of individuals constituting, e.g., a family, a village, or a religious community, but not to a chance collection of people such as those who happen to be on a particular stretch of pavement at a given time, nor to those members of a town whose names happen to begin with the letter 'B'. Whether or not individuals travelling together in a single railway compartment, if they are all engrossed in their respective newspapers, possess sufficient unity or segregation to entitle them to be called a 'group' may be doubtful. Since, however, it is unavoidable that there should be some such region of ambiguity resulting from the

definition of a term in the biological sciences, and since the term adequately fulfils the practical function of unambiguous indication over the rest of the field of social facts, it would be idle to dispute about borderline cases.

'Group' is thus the widest generic term of social psychology. It has been suggested by E. J. Lindgren, in reply to a questionnaire on the subject circulated by the writer, that different kinds of groups could be best named for scientific purposes by attaching to the word 'group' an adjective indicating the specific character of the kind of group referred to. In this way it would be possible to avoid much of the ambiguity which results from the different meanings attached by different authors to commonly used terms. Thus R. M. MacIver used the term 'association' for "an organization of social beings (or a body of social beings *as organized*) for the pursuit of some common interest or interests" (9), but the same word is used in other senses by other authors.[1] The confusion of thought which may result from this diversity of usage might be avoided, and MacIver's meaning unambiguously conveyed, if Lindgren's suggestion were adopted and, instead of 'association', some such term as 'organized interest group' were used.

A group may consist of members bound together in some way which does not involve bodily proximity (such as a society whose members have common interests but live in different districts). Other kinds of groups are made up of members who are actually close together in space, either occasionally (as a football crowd), or habitually (as a family). The presence or absence of bodily proximity must be indicated in any adequate description of the group, and also the degree of its permanence. Thus what is called a 'crowd' in ordinary speech is a group in temporary bodily proximity. The term 'aggregate' or 'aggregation' is commonly used for a number of persons in bodily proximity, whether or not they show

[1] Alverdes, writing on animal psychology, says: "An association is formed by environmental factors causing a number of animals, whether of the same or different species, to gather together in one place" (2). With this may be contrasted MacIver's statement: "Men may mass together without being organized. A mere aggregation is not an association" (9). In Warren's dictionary two sociological meanings of 'association' are given: "the bringing into relation of two or more individuals, human or animal, with interaction or communication of some sort between them," and "a relatively permanent co-acting group, e.g. corporation, society, or partnership" (11).

the type of coherence which would render appropriate the application of the term ' group '. The fact that a particular aggregate is not also a group may be indicated by referring to it as a ' mere aggregate ', or as a ' non-unified aggregate '.

While the presence or absence of bodily proximity is an important distinguishing characteristic of different kinds of groups, there is, nevertheless, no sharp line between the groups that have and those that lack this characteristic. The psychological importance of bodily proximity lies in the possibility that it affords of continuous social interaction between group members. How close must be the proximity for such interaction to be possible depends on the range of communication, and may be indefinitely extended by such devices as the telephone. Members of a family living apart, but in telephone communication with one another, may be in a condition almost equivalent psychologically to one of bodily proximity.

The term ' institution ' is generally used for a socially regulated pattern of behaviour affecting social grouping within some special sphere of human activity and having a relatively enduring character. The institution of marriage is, for example, such a pattern of behaviour within the sphere of sexual and parental behaviour, affecting social grouping by the creation of the family group, which is socially regulated both by marriage laws and by the sexual and parental conventions of the society in which it occurs. Horse-racing and school education are also institutions of our society.

The term ' institution ' has been used in a different sense for the structure of the organization of such a permanent group as a church or a trade-union, whose members are bound together by a formulated system of obligations. The group itself (as distinct from its organization) may be called an ' institutionalized group ' or a ' society '.[1]

III. LAWS, CUSTOMS, AND TRADITIONS

The social organization within which an individual lives exerts pressure on him in many ways. The ' laws ' of his society are definitely formulated requirements of behaviour within the group, the infraction of which makes the individual liable to officially enforced penalties. He is also under the influence of ' customs ',

[1] The term ' society ' is also used for the whole social network which is an individual's social environment.

which are behaviour requirements sustained by a tendency in the individual to conform to the kinds of behaviour usual in the group, and by the pressure of group disapproval of their infraction.

Other ways in which the individual's behaviour is under the influence of the group result from his tendency to accept as his own the beliefs which are current in the group. Examples of such ' popular beliefs ' are to be found in currently accepted opinions on medical matters, such as that the presence of dirt in houses increases the likelihood that the inhabitants will contract infectious diseases (i.e. that " dirt harbours germs "), or the belief in the value to health of outdoor exercise. A minority which either is, or believes itself to be, more rational than the other members of the society to which it belongs may reject some of its current popular beliefs and condemn them as ' superstitions '. This term is also often used in a given society for certain popular beliefs previously held in that society which it now rejects (as, for example, the belief in witchcraft of our own ancestors), and by members of one group for beliefs held by other groups which they themselves do not accept.

Socially approved opinions and forms of verbal expression which are handed down in a group from one generation to another are its ' traditions '. Individual conformity with group traditions may be legally enforceable, as in a community in which heresy is legally punished. More commonly, conformity with group traditions is a result of the action of the same forces as cause conformity to custom.

IV. DIFFERENCES BETWEEN GROUPS

Groups may or may not have within them one or more individuals (the leader or leaders) who direct group activities and become a centre around which are formed the loyalties of the other group members.

Within any given group there may be sub-groups, with a greater or smaller degree of distinction between them. A herd of gregarious animals which at first sight appears to be an undifferentiated whole may, on closer examination, prove to be composed of smaller groups of individuals, who maintain close contact with each other within the larger herd. In the same way a human social group, although itself possessing a unity of its own, may be composed of sub-groups of individuals bound together by consanguinity, the following of a common occupation, or some other unifying factor.

The customary behaviour adopted between sub-groups may consist of social obligations indicating social equality (as when such a courtesy as shaking hands or rubbing noses is exchanged in the same form by two individuals), or of social obligations which indicate the existence of the relationship of social superiority and inferiority (as when such titles of respect as ' Sir ' are used by one party only).[1]

The term ' social stratification ' may be used to indicate the fact that the sub-groups in a society stand in this superior-inferior relationship to each other. A similar system of relationships between individuals is generally indicated by saying that they form a ' hierarchy '. The social classes of a modern industrial society are sub-groups whose members are bound together by similarity in occupation or in social function, generally (although perhaps not necessarily) stratified with respect to one another within the larger group, the ' nation ', of which they are component parts.

The sub-groups of a larger group differ in the permeability of their boundaries (i.e. in the ease with which individuals of one sub-group may pass into another). An example of an institutionalized, stratified social system with very low permeability of class boundaries is to be found in the caste system of India.

The degree to which individual group members are aware of their membership of the group may be spoken of as the degree to which they are ' group conscious '. This may be expressed in behavioural terms as the degree of verbalization of the group relationship. Thus members of different social classes may be more or less aware of (and more or less capable of expressing verbally) the fact of their ' class membership ' ; they may, in other words, be more or less ' class conscious '. The degree to which members of a group are group conscious is a factor in determining the extent to which they are able to form a sentiment or attitude towards the group. The term ' group loyalty ' is in common use for a sentiment or attitude of group members towards the group to which they belong, which leads to co-operative behaviour for the fulfilment of group functions.

[1] It is to be noted that the terms ' superiority ' and ' inferiority ' are here applied in a severely technical sense. The fact that one individual is ' socially superior ' to another does not imply that he is superior morally, intellectually, or in social usefulness, but that he is in a position in which subservience from one ' socially inferior ' is customary.

The need is generally felt for names to be applied to the determinants of group activity. To speak of a 'group mind' is gravely misleading, since the term 'mind', as commonly used, implies conscious direction of activity, which is certainly absent from group activity except in so far as it is supplied by the individual minds of the group's leaders or dominant members. Yet it has been suggested that we can speak of stresses or forces existing between or within groups in the same sense as these terms can be used in describing individual minds (7); thus group hostility might be regarded as a phenomenon similar to hostility between individuals, and described as a state of stress between groups. Stress in an individual mind may lead either to external activity or to internal readjustment, causing reduction of the stress, and the same situation, with the same results, might be postulated to exist within a social group. An example could be found in the 'social stresses' of a potentially revolutionary situation, which are relieved either by a war of conquest or by internal readjustments creating a new social system. The legitimacy of the use of this conception of social stresses is, however, denied by some social psychologists.

V. SENTIMENT AND ATTITUDE

The name 'sentiment' has been given to such enduring emotional dispositions as love, hate, and respect. As these words are used by A. F. Shand, W. McDougall, and most British psychologists, they are not names of emotions but of enduring dispositions to have certain emotions in certain circumstances. A sentiment has been defined as "one of the greater systems of the character which organize and direct the lesser systems of the emotions" (10), and as "an organized system of emotional tendencies centred about some object" (8).

The term 'sentiment', widely used in British psychology, has, however, found little acceptance in America, where 'attitude' has been used with a similar but considerably wider meaning. Many different definitions have been given, which show some (but not an excessive) diversity of usage (1). A good representative definition of attitude is the following: "a more or less permanently enduring state of readiness of mental organization which predisposes

an individual to react in a characteristic way to any object or situation with which it is related " (4).

It is clear from this definition that the term includes what McDougall calls ' sentiments ' : love, hate, and respect are ' attitudes '. It also includes, however, dispositions which are not sentiments, for example such general characteristics of responses to objects or situations as scepticism and laziness. Every sentiment is, therefore, an attitude, but certain attitudes are not sentiments. Both the narrower class term ' sentiment ' and the wider term ' attitude ' may find useful application in the work of the social scientist.

It is unfortunate that ' attitude ' has also been used in experimental psychology, in a somewhat different sense. Variations in the responses of subjects which are determined by variations in the instructions given by the experimenter, or by variations in the predispositions set up by immediately previous experiments, have been attributed, for example, to differences in ' attitude '. Thus the difference between the time a subject takes to respond to a sound stimulus when he has been instructed to listen for the sound signal, and the time taken when he has been instructed to pay attention to the movement he has to carry out, is attributed to the difference in his ' attitude ' produced by these different instructions. Similarly, differences in the subject's ' attitude ' are considered to explain the fact that the question of whether a given ambiguous figure is seen as a white figure on a black ground, or as a black figure on a white ground, may be determined by which of these two ways of seeing has been favoured by what has been shown to the subject previously.

There is obviously an unjustifiable diversity of meaning when a single term is used both for a predisposition whose essential character is that it tends to be permanent, and for one whose essential character is that it is determined by the factors acting at a particular time. This ambiguity is not of great practical importance, since it is generally clear from the context in which sense the word is used. However, the word ' attitude ' having thoroughly established itself in the sense which implies a relatively permanent predisposition, it would be preferable if it were to be replaced by some other word for the expression of its older meaning in experimental psychology.

VI. 'PATTERNS OF CULTURE' AND SIMILAR TERMS

Every science which supplements the analytical method by an attempt to describe the characteristics of unanalysed wholes finds it necessary to extend its technical vocabulary for this purpose. 'Institution' is an example of an analytical term in social science; other examples are the names of such cultural elements in a society as its 'religion', its 'art', and its 'economic structure'. The first effort at an understanding of the social life of a society is necessarily directed towards splitting it up in thought into such elements, and towards studying and describing them separately. When this has been done, it may be felt to be necessary also to describe the character of the society as a whole.

An example of terms designed for such a purpose is to be found in R. Benedict's 'patterns' or 'configurations' of culture (3). When we have described the elements of a culture, its customs, its institutions and its dogmas, there still remains unanalysed the general principle of integration by means of which these are woven into what may be regarded as a more or less coherent 'pattern'. The motives to which men may respond and the goals towards which their behaviour may be directed are multitudinous, and every society makes use only of a certain selection of these. The particular selection of potential human purposes that any particular society employs may be said to give it its characteristic 'pattern'. Different cultures may differ both in the extent to which their activities are subordinated to a single pattern of motivation, and in the kind of pattern which they have adopted.

This is only one example of the use of a non-analytic term in scientific social description. Other usages by other authors might have been chosen. There is not yet, however, much general agreement as to the use of such terms. It is to be hoped that in the future it will be possible to give an adequate account of a generally accepted system of non-analytical social terminology.

REFERENCES

(1) Allport, G. W., "Attitudes," *A Handbook of Social Psychology* (ed. C. Murchison). London: Oxford University Press, 1935, chap. 17.
(2) Alverdes, F., *Social Life in the Animal World*, 1st ed. London: Kegan Paul, 1927. pp. 216.
(3) Benedict, R., *Patterns of Culture*, 1st ed. London: Methuen, 1935. pp. 291.

(4) Cantril, H., " General and Specific Attitudes," *Psychol. Mon.*, 1932, xlii, No. 5. pp. 109.
(5) Ginsberg, M., *The Psychology of Society*, 1st ed. London : Methuen, 1921. pp. 174.
(6) Koffka, K., *Principles of Gestalt Psychology*, 1st ed. London : Kegan Paul, 1935. pp. 720.
(7) Lewin, K., *A Dynamic Theory of Personality*, 1st ed. London : McGraw-Hill, 1935. pp. 286.
(8) McDougall, W., *An Introduction to Social Psychology*, 22nd ed. London : Methuen, 1931. pp. 506.
(9) MacIver, R. M., *Community*, 3rd ed. London : Macmillan, 1924. pp. 446.
(10) Shand, A. F., *The Foundations of Character*, 2nd ed. London : Macmillan, 1920. pp. 578.
(11) Warren, H. C., *Dictionary of Psychology*, 1st ed. London : Allen and Unwin, 1935. pp. 372.

PART II

SOCIAL APPLICATIONS OF PSYCHOLOGICAL TESTS AND OTHER METHODS

CHAPTER VI

SCIENTIFIC METHOD AND THE USE OF STATISTICS

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I. SCIENTIFIC METHOD

The goal of science is to explain particular facts under general laws. The scientist does not believe in the power of any process of thinking to determine the general laws of his subject, but believes that these must be discovered by a study of the particular facts themselves. Scientific method is a system of techniques (differing in many respects in different sciences, although retaining the same general character) for attaining the end of discovering general laws.

Attention to a fact either unfamiliar or not understood leads commonly to a wish to explain it, that is, to discover that it is a new example of some class of facts which is relatively familiar and understood. This search for an explanation may be motivated by mere curiosity (i.e. by the desire for relief from the stresses which may arise in the presence of the unfamiliar and the uncomprehended), or by the practical need for control or prediction. The fact that we can explain the spread of infectious disease by the passage of micro-organisms from one person to another satisfies scientific curiosity, but it is more important that we are thereby enabled largely to control the spread of infection.

In order that our explanations of social facts may be valid ones, it is necessary that the primary data should have been collected in a satisfactory manner. The collection of data in the social sciences must consist in the observation and description of modes of human behaviour. Whether the data collected will be

characteristic of the society under observation (as they should be), or merely of the individual who happens to be making the observations, depends largely on the scientific ability and training of the latter. There seems to be no foundation for the opinion that the collection of social facts is so easy that social science can be advanced by the accumulation of observations by enthusiastic but untrained observers.[1]

The social sciences become scientific, not by adherence to some particular school of thought, but by submission to the discipline of method necessary to ensure that such explanations as are put forward are not the individual reactions to social facts of particular observers, but the generalizations which would follow from the facts themselves whoever the observers might be. Much social study of the past and of the present is not scientific, because it does not submit to such discipline and uses pre-scientific methods.

II. SOME PRE-SCIENTIFIC METHODS

It is an obvious requirement for the data on which scientific conclusions are to be founded that they should have been gathered under known conditions, by a competent and reliable observer, and in sufficient numbers to ensure that an exceptional incident is not taken to be a usual one. Data which fail to conform to one or more of these requirements have been common in the past and are not unknown now. Havelock Ellis says, for example: "Savage women are evidently very attentive to music; Backhouse (as quoted by Ling Roth [*The Tasmanians*, p. 201]) mentions how a woman belonging to the very primitive and now extinct Tasmanian race, when shown a musical box, listened 'with intensity; her ears moved like those of a dog or horse, to catch the sound'" (2).

This is clearly not the sort of datum on which a scientific conclusion can be based. The fact that it is quoted at second-hand leaves us uncertain of the reliability of the observer. If, however, he were perfectly reliable, it would still be an insufficient support for the conclusion that 'savage women are very attentive to music', since it would be uncertain whether the reaction noted was a general one or whether it was reported because its exceptional nature struck the observer. The conclusion would be soundly

[1] For an account of useful work which can be carried out, under supervision, by relatively untrained observers, see Chapter II, Section IV.

supported only by a series of observations of a sufficiently large sample of savage women, who exhibited this reaction of attentive listening in a sufficiently greater proportion of cases than were found in an otherwise comparable sample of civilized women. What, in this case, constitutes a ' sufficiently large sample ' and a ' sufficiently greater proportion ' is one of the fundamental problems of the science of statistical methods.

The method of supporting conclusions by evidence either insufficiently attested or insufficient in quantity for the purpose for which it is used may be called ' anecdotalism '. The collection of anecdotes may form part of a valuable preliminary survey of a field afterwards to be studied by more exact methods, but it is never an adequate substitute for such exact methods. It may suggest problems for investigation and even indicate possible solutions of these problems, but it cannot itself solve the problems. Dependence on anecdotes indicates a preliminary stage of scientific enquiry and becomes a vice when that preliminary stage is passed. The use of anecdotes is, of course, legitimate as a teaching device, when an anecdote may illustrate a principle itself established by other, more adequate methods. But even then this method must be used with caution, lest the student should mistake the illustration for evidence.

A much graver offence against the principles of scientific method is that of supporting a conclusion by an anecdote which is not the record of an actual observation, but which has been invented for the purpose in hand. The writings of the associationist psychologists are full of examples of this method (which has not, indeed, been altogether abandoned by writers of the present day). Thus we find such passages in Bain as the following: " If one who has at a former time read the play of Œdipus, now commences to read Lear, the similarity is not at first apparent, but long before the conclusion there will be a sufficient accumulation of features of similitude, in dramatic situation and in language, to bring Œdipus to mind "; and a little later: " A poet falls upon a beautiful metaphor, while dwelling in the region where the material of the simile occurs. In the country, rural comparisons are most easily made; on ship-board, nautical metaphors are naturally abundant"(1).

It is clear that these are not reports of actual observations; there is no suggestion that anyone has counted, e.g., the number

of nautical metaphors made on ship-board, and found them significantly more numerous than when the poet was on land. The conclusions indicated are very likely ones, but they are not proved, and they may be wrong. When this method, which we may call ' fantastic anecdotalism ', is used as the basic method for establishing conclusions, it gives no criterion (except the very unreliable one of generally accepted opinion) as to which conclusions are right and which are wrong. It is a method which should have no place in a scientific study.

Another pre-scientific method is that of fitting facts into an ambitious system of explanatory principles which are the products not of investigation, but of the observer's own speculative thinking. This may be called the ' speculative method '. The rise of science has very largely resulted from the abandonment of the speculative method, although it still persists to some extent in psychology and the social sciences. J. B. Watson, for example, wishes to establish that talents are not inherited, but only appear to be so because parents condition their children to follow their own interests, and because interests are partly determined by the inheritance of gross structural differences. He says : " Let us take a hypothetical case. Here are two boys, one aged 7, the other 6. The father is a pianist of great talent, the mother an artist working in oil, a portrait painter of note. The father has strong, large hands but with long flexible fingers. . . . The older son has the same type of hand. The father loves his first born, the mother the younger . . . the older becomes a wonderful pianist, the younger an indifferent artist " (9).

The author's conclusion is simply speculation, based on a fantastic anecdote. It does not help us to decide whether musical talent is inherited as such or not. The alternative suggested is a possible one, but whether it is also true could only be determined by a quantitative investigation of musical capacity in children who had, in varying degrees and in different combinations, the following characteristics : (*a*) descent from a musical parent ; (*b*) early training in music ; (*c*) long tapering fingers. After such an investigation, we would have the data necessary for coming to a conclusion about the importance of these factors in determining musical ability, a conclusion which could not be reached by any process of merely thinking about the problem.

Reasoning about scientific problems has its own value. It may establish the fact that two hypotheses are inconsistent with one another, although it cannot determine which is true. Speculation has also an indispensable function in the suggestion of new possibilities, afterwards to be tested by scientific methods. Speculation, used in this way, is indeed an essential part of scientific enquiry, and the social philosopher and social scientist should always be able to work in harmonious and fruitful co-operation.

III. THE PROBLEM OF SAMPLING

In the social sciences an enquiry may be either qualitative or quantitative. We may, for example, wish to determine what is the educational system of a given community. That will give rise to a qualitative enquiry. We may, on the other hand, want an answer to any one of a large number of quantitative questions which may be asked about the educational system, regarding such matters as the proportion of children that go to school, the average intelligence levels of children going to different types of school, or the average educational attainments of children at the time they leave school. It is with the special difficulties of quantitative enquiries of this sort that the present chapter is concerned.

In a quantitative enquiry in any of the biological sciences it is generally necessary to measure a limited number of cases, i.e. a *sample*, which is regarded as representative of the larger *population* from which it is drawn. There are certain obvious precautions which must be taken in constructing a sample, in order to ensure that it shall be effectively representative.

It is clearly necessary to make a sample in such a way that there has been no bias in selection with respect to any characteristic related to the investigation. Let us suppose, for example, that a research worker desired to investigate the effectiveness of some novel method of education. It would obviously be desirable to study two samples of children, one to be educated by the new method (the *experimental group*), and the other to be educated in the ordinary way (the *control group*).[1] In order to make a valid test of the new method, it would be necessary to ensure that the method of obtaining the

[1] For a fuller treatment of methods of using control groups see Chapter IV, Section, I, D.

experimental and control groups did not introduce any bias towards greater intelligence, age, or educational opportunity in one group than in the other (such, for example, as might be caused by taking these groups from different schools, or from different classes in the same school). Such bias may be avoided either by drawing both groups by a random method from the same population, so that any differences between them in these respects will almost certainly not exceed a chance amount which can be easily calculated, or by ascertaining the average and 'scatter' of these characters for both groups and constructing the groups so that they shall be approximately equal in mean amount and in 'scatter'.

The investigator of the problem in question will probably begin by giving both his experimental and his control group a test of their achievements in school subjects. He will then give his experimental group a year's education by the new method, while the control group spends the same year in being educated in the ordinary way. He then retests them in school achievements, and notes for each individual of both groups the amount of improvement during the year. The mean improvement for the experimental group can now be determined and compared with that of the control group.

The investigator's difficulties are, however, not yet over. Let us suppose that the members of the experimental group have improved on the average rather more than those of the control group. The investigator would nevertheless be ill-advised to conclude without further enquiry that the new method of education was better than the old. He may notice that different individuals have improved by different amounts, and that some members of the experimental group have done worse than some of the control group (although more have done better). He may reflect that if he had chanced to have a large number of individuals of this type in his experimental sample, his result would have been reversed, and further reflection may suggest to him that chance alone might have caused it to happen that there were more of the individuals who had done better in his experimental group. His doubt arises from the obvious fact that the reliability of the average of a sample is reduced by the presence of differences between the individual measurements, since it may then be expected that a different sample, including different individuals drawn from the same population,

would give a different average. As the individual differences increase, so also will the unreliability of the mean.

The investigator can, therefore, draw no conclusion until he has used some method for determining within what limits his averages can be relied upon. Fortunately the method for determining this has been worked out by statisticians, and the social investigator need only make an elementary application of statistical method. The purpose of the following sections is to help him to choose suitable methods for attacking various problems, and to give some guidance in their use in the simplest cases. It is not intended that this chapter should be a complete guide to the use of statistical methods, for which the reader is referred to the many existing textbooks on the subject. One of the most useful for the practical research worker is that of R. A. Fisher (3). Although Fisher's work is mainly illustrated from agricultural research, his book is none the less valuable for the worker in the social sciences. Quantitative processes are the same whether the figures refer to the properties of manures or of men.

IV. THE RELIABILITY OF THE MEAN OF A SAMPLE

Since the reliability of the mean of a sample depends on the amount of difference between the individual measurements, the first step to be taken by the investigator is to determine how big these differences are, In other words, the complete characterization of the sample requires the calculation not only of the mean, but also of some measure of the ' scatter '.

What is meant by ' scatter ' may perhaps be shown most clearly if we begin by making a graphical representation of a sample on a frequency diagram. The material chosen for purposes of illustration was obtained in the course of testing a number of persons for their power of correctly estimating the probabilities of the results of tossing coins, drawing cards, etc. A sample of 31 individuals gave the following test scores: 27, 12, 26, 27, 22, 28, 31, 25, 24, 15, 14, 38, 16, 25, 31, 24, 28, 13, 13, 10, 29, 20, 10, 22, 19, 9, 21, 18, 24, 21, 23. There is obviously a wide difference between the individuals with respect to the capacity measured.

To introduce order into these measurements we may collect

them into groups: those falling between 5 and 10, those between 10 and 15, and so on (counting those values, such as 10, 15, etc., which fall between two classes as ½ in one class and ½ in the other). We then find that there are 2 values between 5 and 10, 5½ between 10 and 15, 4 between 15 and 20, 9½ between 20 and 25, 7 between 25 and 30, 2 between 30 and 35, and 1 between 35 and 40. These facts can conveniently be represented by a 'frequency histogram' (Fig. 1), in which different individual scores are shown as distances along the base line, while the number of individuals giving those

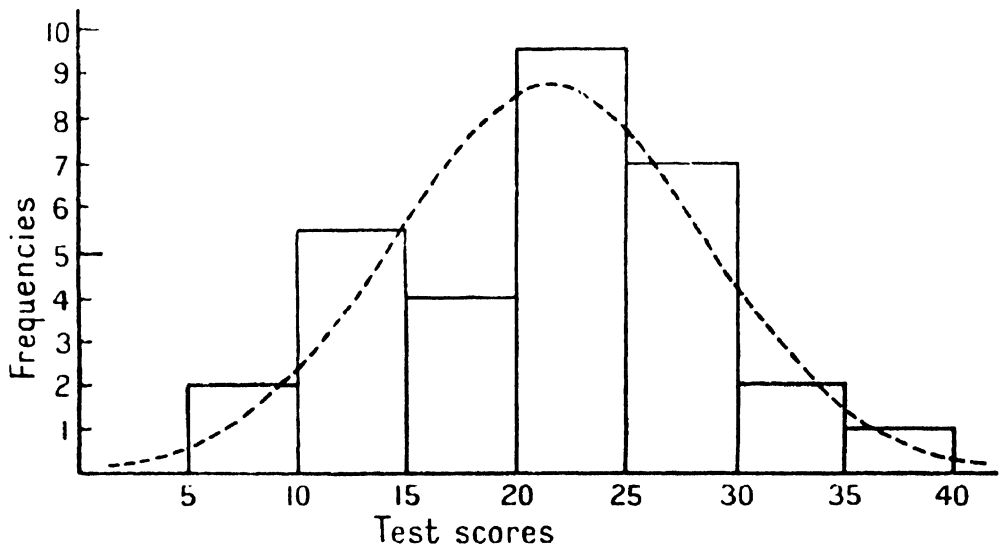

FIGURE 1

scores is represented by heights above the base line. The continuous outline shows the distribution of the scores already given. It will be seen that the distribution is of a more or less symmetrical, 'cocked hat' shape; i.e. there is a tendency for the most numerous values to be the central ones, the frequency falling off towards the extremes. This is a form of distribution very commonly found when the causes of individual deviations from a central value are as likely to act in one direction as in the other.

The advantage of the graphic method of showing the results is that it not only enables us to see at a glance whether the scores are distributed about a central value (lying in this case somewhere between 20 and 25), but also gives us an idea of how much the

individual values tend to differ from the central value, that is, it represents the degree of scatter.

The ordinary method of getting a numerical value for the central value is to add all the individual values together and divide by their total number, the result being the 'average' or 'mean'. If we use the symbol X for any individual value, we may represent the mean by the symbol $\bar{X}$. $\bar{X}$ is, therefore, calculated as $\Sigma X/N$, in which N is the number of individual values and the symbol Σ stands for 'the sum of' (i.e. ΣX stands for the sum of all the Xs). In this case $\bar{X}$ is found to be 21·45.

In order to obtain a numerical value for the scatter, we begin by calculating the average value of the squares of the individual deviations from the average. Thus the first value (27) is 5·55 greater than the average, and this figure squared comes to 30·8025; the second (12) is 9·45 less than the average; and the square is 89·3025. If all the deviations are similarly squared their sum is found to be 1525·67.

This procedure is actually too laborious for practical use, however, and the same result may be obtained more easily. If we have a table of squares and any kind of calculating machine, even a pocket adding machine which costs only a few shillings, the simplest procedure is to begin by squaring, not the deviations, but the original numbers. Their total ($27^2 + 12^2 + 26^2$, etc.) comes to 15,791. If we subtract from this the square of the average, multiplied by the total number of cases (most easily calculated as the square of the total divided by the number of cases), it gives us the sum of the squares of the deviations from the average. The total is here 665, which squared and divided by 31 gives 14,265·33, which subtracted from 15,791 gives 1,525·67, as before.

To get the mean of this sum of squared deviations we divide not by 31 but by one less, i.e. by 30. This is because it can be shown that in a small sample, division by N tends to underestimate the scatter of the population from which it is drawn, and that division by $(N - 1)$ gives the best estimate of its proper value. If 1,525·67 is divided by 30, we get 50·856. When this mean square deviation is used as a measure of scatter, it is called the 'variance'. The measure of scatter in most general use is, however, the 'standard deviation', which is the square root of the variance. In the above case this is 7·13.

The usual symbol for the standard deviation is σ. In the system of symbols already used for the mean, the standard deviation may be expressed as $\sqrt{\Sigma(X - \bar{X})^2/(N - 1)}$. The alternative method of working it out, also described above, is by the use of the mathematically equivalent formula: $\sqrt{(\Sigma X^2 - N.\bar{X}^2)/(N - 1)}$.

If another sample had been drawn from the same population, we should have got a somewhat similar (but not identical) mean and a somewhat similar standard deviation. The results already given were obtained from a Workers' Educational Association class in Glasgow. In another set of 30 results, obtained from another W. E. A. class in Glasgow, the mean score was 21·23, with $\sigma = 6{\cdot}34$. If a frequency histogram were made of these results, they would be seen to be distributed in a similar way, with the most frequent values in the middle and the frequency falling off on both sides. If a much larger sample were taken, we should expect the mean and the scatter to remain about the same, although both would now be more reliably estimated. The curve would then be taller but of the same width. If the size of the sample were still further increased and the class intervals made smaller, the curve would be found to approximate more and more closely to the form of the 'normal curve of error' which is shown as a dotted line in Figure 1. This normal curve is the form to which many of the frequency distributions with which we have to deal tend to approximate, and it is on the known mathematical properties of the normal curve that we rely in such statistical processes as that of calculating the reliability of the mean of a sample.

In two successive samples of about 30 individuals, we have found means of 21·45 and 21·23. If we continued to take samples we should find that their means were also distributed on a curve somewhat similar to that already obtained, but with a much smaller scatter, while the mean of these means approximated more and more closely to the theoretically 'correct' mean which we should get from an infinitely large sample. In order to know how far the mean of a single sample is likely to deviate from this true mean (i.e. to determine its reliability) it is not necessary to take a succession of samples, since we can estimate from the sample itself what would be the standard deviation of the means of a series of samples of that size drawn from the same population. The required quantity

is the standard deviation of the sample divided by the square root of the number of cases in the sample. Thus from our first sample we can calculate: σ_M (the standard deviation of the mean) $= 7{\cdot}13/\sqrt{31} = 1{\cdot}28$.

The means of a set of samples of this size may, therefore, be expected to be distributed on a curve with a standard deviation of about 1·28. This quantity is obviously an estimate of the reliability of the mean of our sample; the smaller it is, the smaller will be the amount by which the mean of our sample may be expected to differ from the true mean which would have been obtained from an infinitely large sample. It may be called the 'standard error of sampling' (or S.E.). Unlike the standard deviation of the sample (which tends to remain about the same), the standard error will become smaller as we increase the size of the sample and consequently increase the reliability of its mean. The S.E. will, in fact, be inversely proportional to the square of the size of the sample, so, in order to reduce the uncertainty of our estimate of the mean by half, we must take a sample four times as large.

In order to obtain from the standard error a numerical expression for the reliability of the mean, it is necessary to make use of the known properties of the normal curve, on which are based the tables of normal deviates to be found in books on statistical methods. It can be shown that if a quantity is normally distributed, about two-thirds of its values will lie within the limits of the mean plus or minus its own standard error.[1] The odds will thus be about 2 to 1 that the mean we have calculated lies within the limits of the true mean $\pm$ 1·28. We can feel no very strong conviction that it does lie within those limits. The odds are, however, about a million to one that it lies within the limits of $\pm$ 5·3 times the standard error. We can feel reasonably certain that it does not lie outside those limits, but a smaller probability would have satisfied us.

It is conventionally taken as sufficient proof of a hypothesis if the odds against it being mistaken are about 20 to 1, which represents the likelihood that the true mean and the calculated mean are not

[1] A quantity ·6745 × S.E. is sometimes calculated. This is the 'probable error' (or P.E.) of the mean. It is the limit within which one-half of the deviations from their own mean of a series of normally distributed quantities will fall. There is, however, no special advantage to be gained by using it.

separated by more than twice the calculated standard error. In the given case we can, therefore, conclude that the true mean we should have got from an infinite sample would lie somewhere between the limits of 21·45 ± 2·56, i.e. between 18·9 and 24·0. We should, of course, feel greater confidence in this prediction if the likelihood of it being erroneous were even smaller. The odds will be 100 to 1 against the true mean lying beyond the limits of 2½ times the S.E., so we can predict with reasonable confidence that the true mean score for Glasgow W. E. A. students in this test of ability to estimate probabilities lies somewhere between 18·2 and 24·7. If we think that this is too large a margin of uncertainty, we can reduce it as much as we like by increasing the number of individuals in our sample.

To illustrate the practical use to which we may put the results of such a calculation, let us suppose that someone had put forward a hypothesis which required, if it were true, that the mean score for this test should be 20. It is clear that the mean of 21·45 obtained from our sample does not contradict this hypothesis. It does not prove that the hypothesis is true, or even that more extensive sampling might not produce evidence against it, but only that the result is not opposed to the hypothesis (as at first sight it might appear to be). If, on the other hand, the hypothesis required that the mean score should be 15, the evidence would be definitely against it. Reference to the table of normal deviates will show us that the odds against our calculated mean differing from the true mean by as large an amount as 6·45 is about a million to one. These facts are very commonly expressed by saying that the mean we have calculated is significantly different from 15, but is not significantly different from 20.

V. THE RELIABILITY OF A DIFFERENCE BETWEEN TWO MEANS

In practice we are much less often concerned with the reliability of a single mean than with the reliability of the difference between two means. That, for example, is the essential statistical problem in the hypothetical enquiry with which this discussion started, which involves a comparison between an experimental group of children educated by some novel method and a control group

educated in the ordinary way. Since I have no data on that question, the method will be illustrated by a further set of data on the estimation of probabilities. The problem of testing the effectiveness of a new educational method would be treated in exactly the same way.

We have seen that the application of this test to two W.E.A. classes gave results which were approximately equal. The test was also applied to a University class of 26 students, who gave a mean score of 23·96, with a standard deviation of 6·07. This is a mean score larger than that of just over 21 given by the W.E.A. students. It is possible that the better education of the University students, or the fact that they have been selected (partly by means of entrance requirements) for their high intelligence, has made them better able to score well in the test. Is the difference large enough, however, to justify us in drawing the conclusion that the University students really have greater ability in this respect, or is it possible that the observed difference is merely due to the chances of sampling?

In attempting to settle this question, we can first arrive at a better estimate of the W.E.A. students' score by pooling the results for the two classes. We then have 61 individuals, giving a mean score of 21·34, with standard deviation 6·70. Since we now have a larger group, the standard error of the mean is only ·86, i.e. smaller than before. Taking ± 2S.E. as the limit of reliability of the mean, we conclude that the true mean for the W.E.A. students lies somewhere between 19·6 and 23·1. The mean for University students lies outside these limits, but their mean also has a certain margin of unreliability due to its sampling error, which must be taken into account before concluding that the University students really have superior ability.

It is therefore necessary to calculate the standard error of the *difference* between the two means, and then to ascertain whether the standard error of this difference is small enough for it to be reasonably certain that the true value of the difference is not zero. The S.E. of the difference between two means is the square root of the sum of the squares of the standard errors of the two means themselves. The S.E. of the University students' scores is $6{\cdot}07/\sqrt{26} = 1{\cdot}09$; that for the W.E.A. students is ·86. The standard error of the difference between the two groups is, therefore, $\sqrt{1{\cdot}09^2 + {\cdot}86^2} = 1{\cdot}39$. The observed difference between

the two groups is 2·62. By the same reasoning as before, we conclude that it is likely that the true value of the difference lies somewhere between the limits 2·62 ± 2·78, that is, between − ·16 and + 5·40.

The observed result is therefore consistent with the true value of the difference being zero, so we cannot conclude that the University students are really superior in their power of doing the test. We could only have concluded this if the observed difference had been greater than 2·78. On the other hand, zero is obviously very near the lower limit of possible values of the true difference, and it may be said to be very unlikely that University students are not really superior, although the unlikelihood is not great enough to justify us in drawing a definite conclusion. In order to get an estimate of this unlikelihood, we may calculate the quantity *t*, which is the quantity under investigation (in this case the difference) divided by its own standard error, and discover from a table of normal deviates what is the likelihood of a value of *t* as great as this occurring by the chances of sampling. The value of *t* in this case is 1·88, and the probability (*P*) of a value as great as this occurring by the chances of sampling is about ·06 (or about 16 to 1 against). It seems very likely, therefore, that the University students are really superior, and although we are not justified in drawing a definite conclusion from this set of data, there is a sufficient indication of this superiority to justify research with a larger group of University students, if we should wish to settle the question more definitely.

The practical investigator is often compelled to make quantitative comparisons between small groups, and a theory based on infinite samples is then of little practical use. If a sample includes less than about 30 items, the method described in the last section is not an accurate method of determining the limits of its reliability, since the standard error of the mean cannot be assumed to be accurately known. There is, however, a method of dealing with small samples, which is known after its inventor's pseudonym as 'Student's method'. The quantity *t* is worked out as above (i.e. as the mean divided by its estimated standard error), but the values of *P* are not obtained from a table of normal deviates; they are derived, instead, from a table in which the probabilities of the chance occurrence of various values of *t* are given for the number

of individuals actually in the sample. Such a table is Fisher's Table IV (3), in which the marginal ' n ' is one less than the number of observations in the sample. In the same book Fisher describes a method which he has devised for calculating the significance of the difference between small samples, by means of an extension of Student's method to this problem.

When one is compelled to use quantitative material drawn from only a small number of cases, this method should always be used. It is still a commonly held opinion that the use of statistical methods necessitates large samples. Frequently an investigator will say that some of his quantitative data are drawn from the study of too few cases to be suitable for statistical treatment, and will then draw conclusions (even if rather tentative conclusions) from these data. Since the object of the statistical calculations illustrated above is to prevent us from being misled, by chance quantitative differences due to sampling, into asserting real quantitative differences, and since with small samples this danger is greater, as well as less easy to estimate by mere inspection, it follows that if any conclusions, however tentative, are to be drawn from small samples, proper statistical treatment is more than ever necessary in such cases. Use of Student's method may show that a conclusion, drawn tentatively after mere inspection, should not have been drawn at all, or, on the contrary, that the conclusion might have been affirmed with a considerable amount of conviction. In any event, it is plainly an advantage to make as good an estimate as one can of the reliability of any quantitative results which appear to emerge from one's data, whether the number of cases investigated is large or small.

It is important to notice a limitation to the value of statistical treatment which is often ignored. Calculation of the significance of a difference by use of the sampling error of the difference can only show that the two groups which have been compared *are* different; it cannot show to *what* this difference is due. It might be due to bias in the sampling, or to the fact that an incompetent tester had used different methods of testing for the two groups. Even a significant difference can only be regarded as indicating the causal efficiency of the factor under investigation if adequate precautions have been taken to exclude all other possible causes of the difference. Statistical methods do not provide a technique

for drawing trustworthy conclusions from untrustworthy data. A careful use of statistical methods is a valuable supplement to careful experimentation and observation; it is not a substitute for them.

VI. OTHER METHODS OF APPLYING STATISTICAL TESTS

The method described in Sections IV and V is one of the simplest and most generally used for the purpose of determining the significance of quantitative data. But there are other methods which the investigator in the social sciences should have at his command. He may, in particular cases, find that he has to deal with data which are not even approximately normally distributed. The characteristics of other types of distribution (such as an asymmetrical logarithmic distribution) may be discovered by reference to the textbooks.

He may also find himself faced by such a problem as that only 7 out of 80 women show a certain characteristic, while 12 out of 70 men show it, and he may wish to know whether this disproportion is great enough to justify the conclusion that there is a real sex difference with respect to the characteristic in question. For problems of this kind the 'χ^2 method' is widely used, details of which can again be found in the textbooks.

VII. CORRELATIONS

An essential problem in all science is the investigation of causal relations. If a characteristic A is always accompanied by B and its absence is always accompanied by the absence of B, it is easy to conclude that A and B are causally connected, i.e. that A is the cause of B, or B is the cause of A, or both A and B are effects of some cause C. If A and B are two quantitatively differing characteristics such as height and weight, it would be equally easy to conclude that they were causally connected if it were found that individuals showing a large or small measurement in A always showed a correspondingly large or small measurement in B.

The solution of the problem is less easy, however, when, as

commonly happens in the social sciences, we find that there is no such invariable relationship between *A* and *B*, but that possession of a large measurement in *A* tends on the whole, yet not invariably, to be accompanied by a correspondingly large measurement in *B*. The demonstration of a real quantitative relationship between *A* and *B* will then require the use of a suitable statistical method, and it is for this purpose that the 'correlation coefficient' has been devised.

As an illustration of the use of the correlation coefficient, we may take a set of the same results as were considered previously. I wished to know how far ability to succeed in the test of estimating probabilities was dependent on intelligence. From 19 of the W.E.A. students who had done the probabilities estimation test, I also obtained scores from a standard intelligence test (the Terman Group Intelligence Scale). The following results were obtained:

Subject	*Probabilities Test Score*	*Intelligence Test Score*
A	20	112
B	10	151
C	22	175
D	27	144
E	9	143
F	27	190
G	22	95
H	31	189
I	21	171
J	18	138
K	24	176
L	38	214
M	16	165
N	31	204
O	21	164
P	24	207
Q	28	176
R	23	120
S	13	123

It is obvious from casual inspection that there is no complete correlation between these sets of scores. Those who do well in one test do not always do proportionately well in the other. It is not so easy to tell by casual inspection whether there is any correlation at all, i.e. whether there is any tendency for those who do well in one to do proportionately well in the other.

As a first step in this enquiry, we may make a 'scatter diagram' of the results. In Figure 2 each dot represents one individual's score, the distance from the vertical axis showing his intelligence test score, while the height above the base line corresponds to his score on the probabilities test. If a high or low score in the one test were always accompanied by a correspondingly high or low score in the other, all the dots would lie on an inclined straight line

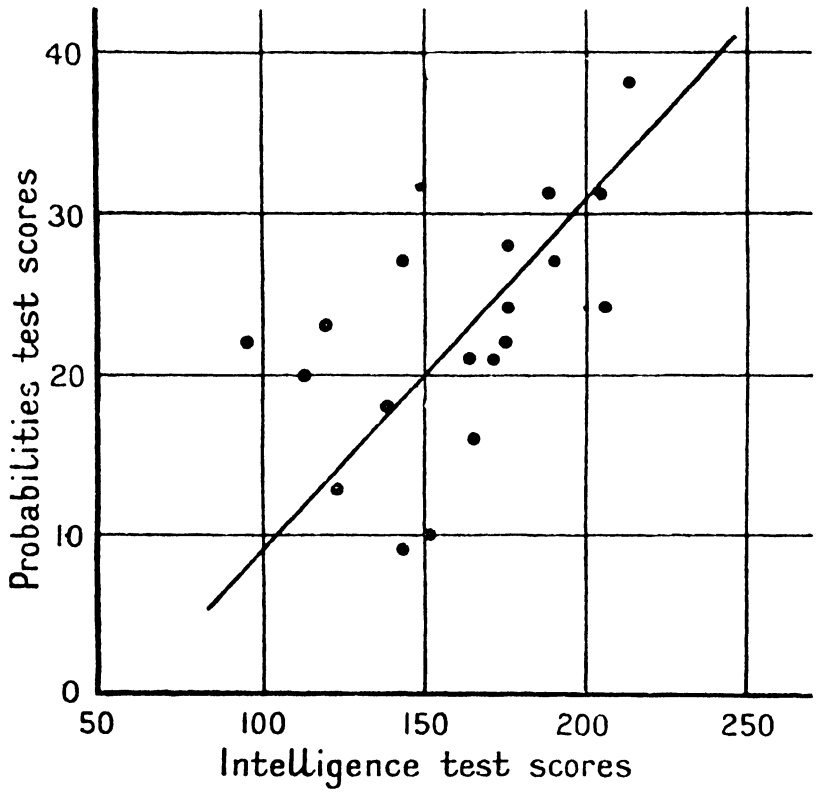

FIGURE 2

as shown in the figure. It is clear that they do not. It is, however, also clear that there is some tendency for them to collect in the neighbourhood of that line. Those scoring lowest in the one test can be seen to be scoring, on the average, low in the other test, and similarly for those with high scores. All the results could be enclosed in a roughly elliptical figure, the long axis of which would be along the inclined straight line. This shows that the two sets of test results are to some extent correlated. There still remains

the problem of obtaining a quantitative index of how much they are correlated.

The Bravais-Pearson formula is the one most commonly used for this purpose. First, in the case of each test, we find the deviation of each score from the mean; then we calculate the sum of the squares of these for the first test, and for the second test, and finally the sum of their products (in the case of the products, adding positive amounts and subtracting negative ones). The mean of the first column above is 22·37 and of the second 160·9, so the deviations of *A*'s scores are − 2·37 and − 48·9. The squares of these are + 5·62 and + 2,391, while their product is + 115·9. Similarly, the squares and the product of the deviations for *B* are + 15·30, + 98, and + 122·5, and for *C* + 0·14, + 199, and − 5·2. Thus, for the first three subjects, the sum of squares of deviations from the mean in the first test is (5·62 + 15·30 + 0·14) = + 21·06, and in the second test (2,391 + 98 + 199) = + 2,688, while the sum of the products is (115·9 + 122·5 − 5·2) = + 233·2. The corresponding totals for the whole series are 962·42, 20,294, and 2,567·7, respectively. The coefficient of correlation (*r*) is then calculated as the sum of the products of the two sets of deviations (2,567·7), divided by the square root of the product of the sums of the squares of the deviations for each test (i.e. by $\sqrt{}$ (962·42 × 20,294). This comes to + ·58, which is the coefficient of correlation for these two sets of test results.

This may be expressed more clearly if we introduce a few symbols. If *X* stands for any score in the first test, we may use *x* as a symbol for the deviation of that score from the mean for the test. Similarly *Y* and *y* may be used for any score, and its deviation, in the second test. The three sets of values we have calculated for each individual are x^2, y^2, and xy. Summing them, we have got Σx^2, Σy^2, and Σxy. The correlation coefficient we have calculated at the end is:

$$\frac{\Sigma xy}{\sqrt{(\Sigma x^2 . \Sigma y^2)}}.$$ [1]

[1] As in working out a standard deviation, we shall find the procedure described too laborious for practical use, and instead of squaring and multiplying the deviations, we may adopt some easier method that leads to the same result. The usual method is to work out (with the aid of a table of squares and an adding machine): $\Sigma \bar{X}^2 - N.\bar{X}^2$ for Σx^2, $\Sigma Y^2 - N.\bar{Y}^2$ for Σy^2, and $\frac{1}{2}[\Sigma(X + Y)^2 - \Sigma X^2 - \Sigma Y^2] - N.\bar{X}.\bar{Y}$ for Σxy. This saves trouble

The correlation coefficient will have the value of + 1 if the two variates are completely correlated, of 0 if a high or low value in the one has no tendency whatever to be accompanied by a correspondingly high or low value in the other, and of − 1 if a high value in the one is always accompanied by a correspondingly low value in the other, and vice versa. The meaning of the correlation coefficient of ·58 which we have obtained for our two tests is, therefore, that slightly more than half of the causes of individual differences between different test scores appear to be acting alike on the two sets of test scores, while the remainder are not.

In order that a correlation coefficient may be of any practical use, we must know within what limits it may be relied on to be numerically correct. It is usual to treat the standard error of a correlation coefficient r as equal to $(1 - r^2)/\sqrt{(N-1)}$. It has been pointed out by Fisher that this is only true if the coefficient is small and N is large. Methods for determining the limits of reliability of large correlation coefficients (the 'z transformation') and of correlation coefficients calculated from small samples (based on Student's method) may be found in Fisher.

The first question that must be asked about a correlation coefficient is whether its size is sufficiently great for it to be reasonably certain that it has not arisen, through the chances of sampling, from a really uncorrelated population (i.e. whether the coefficient is significantly different from zero). The simplest method of answering this question without any calculation is to use Fisher's Table V, A, in which the necessary figures are given for testing directly the significance of correlations for samples up to 100 pairs (3). Referring to this table, we find that the minimum value of a correlation from 19 pairs that is significantly different from zero (using the odds of 20 : 1 as the criterion of significance) is ·455, while the odds are 100 : 1 against a value as great as ·575

and is less liable to error. If this method is used it is, however, important that the means $\bar{X}$ and $\bar{Y}$ should be calculated with considerable accuracy (i.e. to two or three more significant figures than one would require for ordinary purposes). Otherwise a considerable error will be made in the corrections. The easiest way of avoiding this difficulty is to use the totals (calculated without any approximation) instead of the means, and then to divide by N instead of multiplying. Thus $N.\bar{X}^2$ may be calculated as $(\Sigma X)^2/N$, $N\,Y^2$ as $(\Sigma Y)^2/N$, and $N.\bar{X}.\bar{Y}$ as $(\Sigma X.\Sigma Y)/N$.

having arisen by the chances of sampling. Our value of ·58 may therefore be accepted as definite evidence that our two sets of scores are correlated, although the true correlation from an infinitely large sample might be numerically considerably different from ·58.

If we wish to know within what limits the true correlation is likely to lie, we must use Fisher's method of transforming the correlation coefficient into another quantity, z, which (unlike the correlation coefficient) is normally distributed. By doing this, we find that the odds are 20 : 1 that the true value of the correlation coefficient, in the case cited, lies between the limits + ·17 and + ·82. This is obviously a very wide range of possible values. If all that we want to know is whether or not the two sets of results are correlated, the result is satisfactory, but if we also wanted a fairly accurate estimate of the amount of the correlation, it would be necessary to take a considerably larger sample.[1]

VIII. PARTIAL CORRELATIONS, FACTOR ANALYSIS, ETC.

In this section I shall briefly mention certain precautions to be taken in the use of correlation coefficients, some lines of research which have developed from their use, and one or two related methods of statistical enquiry.

A significant positive correlation coefficient always indicates a causal connection, but it may not be a causal connection of a kind relevant to the point of view of the enquirer. It has been reported, for example, that a physiologist once found a negative correlation between the amount of calcium in the bones of a series of individuals and the number of their surviving aunts. Here there is obviously no direct causal connection. Older people have more calcium in

[1] It may be noticed that if we had estimated the limits of reliability of this correlation coefficient by calculating a standard error by the formula $(1 - r^2)/\sqrt{(N - 1)}$, we should have obtained a standard error of ·15. Treating this S.E. in the manner described in Section IV, we should have inferred that the true value of the correlation coefficient lay between ·28 and ·88, and that the odds against the observed value of + ·58 being due to the chances of sampling were about 10,000 : 1. Thus the upper limits of the possible range of the true coefficient would have been overestimated and its lower limit underestimated, and (most seriously misleading) the significance of the coefficient would have been much overestimated (by about 100 times).

their bones, and also tend to have fewer surviving aunts. This may be expressed by saying that the correlation between bone calcium and surviving aunts is due to the partial correlation of each with age. If a group of individuals all of the same age had been chosen, no correlation would have been found. The absence of correlation when the individuals in the group are all of the same age might also have been demonstrated by applying to the observed correlation coefficient a correction formula for partial correlations, which will be found in all the textbooks.[1] Whenever correlation coefficients are affected by one or more factors which, from the point of view of the research in hand, are irrelevant, either groups which are homogeneous with respect to these factors must be chosen, or the correction formula must be used. Otherwise we may be led to accept spurious indications of direct causal connection when none exists, or, when it does exist, to estimate the amount incorrectly.

C. E. Spearman has pointed out that all correlation coefficients obtained between the results of mental tests are reduced in amount as a result of the fact that these tests are not perfectly self-consistent, i.e. that two applications of the same test to the same group of people do not (as do physical measurements, if carefully carried out) give two sets of results perfectly correlated with one another. This reduction is called ' attenuation '. Its effects are not important if, as is often the case, we only want to know that two sets of results are correlated. If, however, we want to know the absolute amount of a correlation coefficient, that is, if we want to know the importance of the factors acting in common on the two sets of measures relative to all the factors causing differences between individual measurements, it is necessary to eliminate the effects of attenuation. Spearman's formula for doing this is given in his book (6).

Spearman has also devised a ' rank difference formula ' for measuring a correlation coefficient when the data can only be ranked in order, and not measured (6). It can be applied to any material, if measurements are replaced by orders of merit. When the Bravais-Pearson formula can be used, however, it is generally to be preferred.

An important piece of research which started from the study of correlation coefficients was Spearman's enquiry into whether all

[1] E.g. (3), (5), (8), (10).

intellectual abilities could be analysed into a single general ability and a number of separate specific abilities.[1] It has led to the development of more complex statistical techniques, designed to differentiate more than two factors in an analysis of tables of the correlation coefficients between mental tests. Methods for carrying out this 'multiple factor analysis' have been devised by C. Burt, H. Hotelling, T. L. Kelley (5), and L. L. Thurstone (7). J. P. Guilford's book is probably the best introduction to the subject (4).

The application of multiple factor analysis suggests interesting possibilities, particularly in the analysis of temperamental qualities. The methods involved are, however, somewhat obscure to those not actually engaged in this work, and it is therefore difficult to judge the importance of its contributions. It is plainly possible to reach a stage of abstraction in statistical work at which the results are of mathematical rather than of scientific interest. Whether multiple factor analysis has or has not reached that stage is a matter of legitimate controversy.

Problems of the interconnectedness of measurements may be solved in other ways than by the calculation of correlation coefficients. It has frequently happened that the tradition of working out correlation coefficients has led workers to calculate these even when other ways of treating their data might have been more appropriate. This is particularly the case in educational psychology.

Another way of demonstrating a relationship between two measurable variables is by fitting 'regression lines'. In investigating the relationship between the two sets of test results discussed earlier, we might, for example, have tried to fit, on a scatter diagram, the straight line which best showed what was the likely mean value of the 'probabilities' test result for each value of the intelligence test result. This line would have coincided with the one already drawn on Figure 2 only in the case of complete correlation; if, on the other hand, there had been no correlation at all between the tests, the regression line would have been parallel to the base. The calculation of a correlation coefficient assumes that the regression line of each variate on the other is straight. This is not always the case and, if the line of regression is not a straight one, the correlation coefficient is not an

[1] Cf. (6), and Chapter VII, Section III.

appropriate measure of the relationship between the variates, which can be better demonstrated by the actual fitting of a regression curve.

Again, the correlation coefficient is only an appropriate measure for a random sample of the population investigated. If there has been any bias in the sampling (if, for example, we had chosen to investigate, in the case cited, a sample composed only of those who did best and those who did worst in our tests), the correlation coefficient will be increased by such sampling, and its calculated value will be almost meaningless. The regression line will not, however, be altered by such sampling, and the fitting of a regression line is therefore a much more appropriate way of demonstrating any relationship which may exist between two sets of measurements. Methods of fitting regression lines are described in all the textbooks; L. H. C. Tippett's treatment of the subject is particularly clear (8).

Both the determination of the significance of a difference between two means and the calculation of a correlation coefficient are special cases which form part of a more general problem. In dealing with two means we are asking ourselves whether there are factors causing differences between the two sets of figures, but not differences within each of the two sets. In the correlation calculation, we are asking whether there are factors causing differences between different pairs of measurements which do not also act within the pairs. The more general problem is the investigation of causes of scatter within and between both rows and columns of measurements, when the number of rows and the number of columns are both greater than two. This is the method of 'analysis of variance'.

Let us suppose, for example, that we had ascertained the 'intelligence quotients' [1] for five children in each of five families. We might then have some such set of figures as the following [2]:

	Oldest	*Second*	*Third*	*Fourth*	*Youngest*
Family A . . .	107	93	111	121	101
Family B . . .	87	95	75	81	90
Family C . . .	115	118	99	102	123
etc.					

[1] Cf. Chapter VII, Section II.

[2] These figures are not based on actual measurements. They are entirely fictitious.

Such figures could be used to find out, first, whether there are factors causing differences between rows which do not also act within rows; this would be like finding the correlation between the intelligence quotients of siblings. We would learn how much of the difference between intelligence quotients is caused by factors, such as those due to inheritance and home environment, in which families differ from each other. Secondly, the figures could be used to answer the same question with respect to position in the family, i.e. to discover whether difference in position in the family had been an effective cause of difference in intelligence level.

The same method may also be used when the rows do not contain equal numbers of individuals. It could be applied, for example, in order to ascertain whether the mean intelligence levels for different races cited in Chapter VIII, Section I, provide evidence for real differences between the races concerned. For this purpose we need to know, however, besides the information given in the table, the standard deviation within each group.

There are, indeed, many problems in the social sciences for which the method of analysis of variance provides the simplest and best method of statistical treatment. It is particularly useful whenever the existence of quantitative differences between individuals and between groups is in question. Although the basic theory is simple, the method is somewhat laborious. Tippett's textbook may be recommended as the simplest guide (8).

IX. WHY USE STATISTICAL METHODS?

It is sometimes said that the necessity for the use of statistical methods always indicates an imperfection in the data used, since it always means that uncontrolled factors are present in addition to those under investigation, whereas the aim of scientific method should be so to improve our methods of obtaining data that the use of statistical methods will be unnecessary.

If the physicist, for example, wishes to find out whether the volume of a gas increases with increasing temperature, he does not make a large number of measurements of gas volumes at different temperatures, with other factors (such as pressure) which affect the volume also randomly varying, and then work out a coefficient of correlation between volume and temperature. It

would be a possible method of solving the problem, but a very clumsy one. Knowing that pressure affects the volume, he keeps the gas under constant pressure during his series of experiments, and finds that there is a simple, invariable relationship between temperature and volume. He can draw his conclusions without the use of statistical methods, and with a comparatively small number of observations. He need not make a large number of observations of the volume at any one temperature (as he would have to do if the pressure were randomly varying), because, apart from very small errors which may be incidental to his observations, any one temperature will always be accompanied by the same volume. Why does the worker in the social sciences not adopt the same methods, and thus escape from the necessity for using statistical methods ?

The answer to this question is that the social scientist uses statistical methods, not from choice, but because he is compelled to do so by the nature of his data. Sometimes he is able to adopt the physicist's method of limiting the number of his unwanted variables to a certain extent, but it is generally quite impossible for him to do so completely. Sometimes the nature of his enquiry even makes such limitation undesirable, since he may wish to discover, not simply how one causal factor acts alone, but how it acts in conjunction with a whole complex of causes which, in a particular set of social conditions, affect the phenomenon under investigation.

Let us suppose that the social investigator wishes to investigate the relationship between intelligence and school success. At first sight this appears to be a problem very much like the physicist's enquiry into the relationship between the temperature and the volume of a gas. The social psychologist finds, as would the physicist if he did not control pressure, that there is no simple invariable relationship between intelligence and school success. Many children of high intelligence do well at school, but a number do not.

In both cases, the absence of a simple invariable relationship is due to the fact that there are other causes affecting the observed result besides the one under investigation. The physicist deals with this difficulty by making the one other cause constant in its effects in all his experiments. The social psychologist cannot do so. The causes other than intelligence which affect school

success are very numerous and, even of those that are known to him, not all are under his control. He might try to select for testing only children who had had the same amount of schooling, who came from similar homes, and who had been absent through illness for equal lengths of time. Success in this attempt would, however, probably be rendered valueless by the fact that insistence on equality in the conditions specified would reduce the number of children available for testing so much that for many intelligence levels there would not be a single child to study. Even if it were practicable to make constant all the known factors, other than intelligence, affecting school success, the coefficient of correlation between school success and intelligence would probably still not be unity, since it would almost certainly still be reduced by unknown and uncontrollable factors. If this is a defect in the conditions of the social scientist's observations, it is a defect which he could only avoid by becoming a research worker in physics instead of in the biological sciences.

The investigator in the biological sciences will generally try to avoid selecting material which will introduce causes of variation which are irrelevant from the point of view of his enquiry. A research worker in America would not, for example, use a mixed group of white and coloured children for studying the problem of the relationship between intelligence level and school success. A mixed group would introduce unnecessarily sources of variation which would lower the reliability of the results, and a much larger sample would then be required in order to come to any definite conclusion.

The existence of a multiplicity of causes may, on the other hand, not be a defect, but an essential factor in the research worker's enquiry. In real life a number of different causes affect school success. If the investigator's problem is to discover the importance of intelligence level relative to these other causes (which is the main problem attacked by the correlation method) he must work with a sample of children whose school attainments are affected by all the factors acting in everyday life. Any simplification of the system of causes will falsify the result. Here he is using a method different from the physicist's because he is answering a question which does not arise in the physicist's work.

Against the calculation of significance by standard error the objection is also urged that measurements should be made so

accurately, or on such a large number of cases, that the question of whether a difference is significant should not be in doubt; its significance should be obvious. No one will deny that measurements ought to be made as accurately as possible, but perfect self-consistency in biological measurements is often unobtainable. The reliability of a mean can certainly be increased by increasing the number of measurements, but there are objections to making samples too large. It may often happen that a large increase in the size of a sample can only be attained by making it less perfect in other respects, such as randomness. An example is given in Chapter IX, Section III, E, of how much less reliable results were derived from a very large sample than from a smaller one more carefully selected.

More serious is the question of time. Our working lives are of limited duration, and samples increase in reliability only in proportion to the square root of their size. Let us suppose that we can investigate a statistically adequate pair of samples in a week. If the measurements were made 20 times more reliable, the significance of their difference would, we might hope, be obvious without any use of statistical methods. But our samples would then have to be 400 times as large, and, if we worked without holidays, we would still require nearly eight years to complete our investigation. It would be a costly way of avoiding the use of statistical methods, even if that object were achieved. They would not, however, be avoided. Although, at the end of our eight years of work, the standard error of our mean would probably be very small, we could only be certain that it was small enough to ignore if we had calculated its value.

A working knowledge of statistical methods should therefore be regarded as an essential part of the equipment of an investigator in the social sciences. It is true that there are many non-quantitative problems in which such knowledge is not required, but the investigator will not generally wish to be wholly restricted to these. He may avoid statistical methods because he feels that he is not a sufficiently competent mathematician. The practical research worker does not, however, require to understand statistical theory; he need only be able to use standard statistical methods, and to know which methods are suitable for particular problems. If his knowledge of mathematics is rusty, he may encounter difficulties

in acquiring even these abilities, but the difficulties are likely to prove much less formidable than he expects. The actual computations involved in the statistical methods commonly employed demand no more mathematical skill than that of an average school child ten years of age. Anyone who can solve a cross-word puzzle should be able to do an analysis of variance, and he may well find the same sort of fascination in it.

Those who claim to make quantitative studies in the biological sciences without the use of statistical methods will frequently be found to be using some method of evaluating sampling errors which is more complex and less exact than those of the textbooks. If they ignore altogether the need for calculating the sampling error, they are in danger of drawing conclusions which are not justified by their data, or of committing the equally undesirable error of failing to draw conclusions which are justified by their data. They have no way of knowing into which (if either) of these errors they are falling, or what degree of reliance can be placed on their conclusions.

REFERENCES

(1) Bain, A., *The Senses and the Intellect*, 4th ed. London : Longmans, 1894. pp. 703.
(2) Ellis, Havelock, *Studies in the Psychology of Sex : Sexual Selection in Man.* Philadelphia : Davis, 1911. pp. 270.
(3) Fisher, R. A., *Statistical Methods for Research Workers*, 6th ed. London : Oliver and Boyd, 1936. pp. 339.
(4) Guilford, J. P., *Psychometric Methods.* New York : McGraw-Hill, 1936. pp. 566.
(5) Kelley, T. L., *Statistical Method.* New York : Macmillan, 1923. pp. 390.
(6) Spearman, C. E., *The Abilities of Man.* London : Macmillan, 1927. pp. 415.
(7) Thurstone, L. L., *The Vectors of Mind.* University of Chicago Press, 1935. pp. 266.
(8) Tippett, L. H. C., *The Methods of Statistics*, 2nd ed. London : Williams and Norgate, 1937. pp. 222.
(9) Watson, J. B., "What the nursery has to say about instincts," *Psychologies of 1925*, 1st ed. Worcester, Mass. : Clark University Press, 1926. Chap. 1.
(10) Yule, G. U., and Kendall, M. G., *An Introduction to the Theory of Statistics*, 11th ed. London : Griffin, 1937. pp. 570.

Chapter VII

INTELLIGENCE TESTS

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I. INTRODUCTION

It is possible to classify intelligence tests in various ways. They may, for example, be divided into group tests and individual tests; paper-and-pencil tests and oral tests; or verbal tests, non-verbal and perceptual tests, and performance tests. The Binet test is an individual, mainly oral, and mainly verbal test; tests of the Spearman type are individual or group, paper-and-pencil, verbal or non-verbal.

It is proposed to discuss the Binet and the Spearman type tests in some detail. They provide contrasting approaches to the question of the testing of intelligence, and many of the remarks made when comparing these two types of testing technique will be found applicable to other intelligence tests,[1] to a greater or less degree.

II. THE BINET APPROACH

In 1905, A. Binet published a scale of questions based on some of the different kinds of practical situations that children might be expected to encounter in the course of their ordinary everyday lives.[2] The two elements of diversity and practicality lay at the

[1] The best known of the American group tests are the National, the Otis, and the Terman (all obtainable from G. Harrap and Co., London). Of those devised in this country the best known are probably Thomson's Moray House tests (obtainable from Professor G. H. Thomson, Dept. of Education, Moray House, Edinburgh); Thomson's Northumberland Mental tests, Richardson's Simplex tests, and Cattell's Group tests (all obtainable from Harrap and Co.), and the Group tests of the National Institute of Industrial Psychology, London.

[2] Binet's original scale was constructed for the purpose of diagnosing mental deficiency among the children in Paris schools. It was published in *L'Année Psychologique*, 1905, xi. In 1908 and 1911 the scale was revised by Binet, and it has been extended and standardized by Terman (43, 44) for American children, and by Burt (6) for children in this country.

basis of the tests, a fact which the following discussion will show to be of great importance.

The method of obtaining the scale was to devise a series of representative questions and then put them to a large number of children of different ages. The questions could then be arranged according to 'mental ages', corresponding to the ages of the children who could pass them. Binet's assignments were based on the allotment of a test to a particular age when all the children of that age could pass all, or all but one, of the tests for that year.[1] When some questions had been eliminated and others added, a scale was finally obtained which comprised several tests for each age. The scale could be applied to other children, and their results compared with the results derived from the children of the same chronological age on whom the tests had been standardized.

A few examples may be taken from the Burt revision of Binet's test. A child aged 4 should be able to repeat correctly three digits which are read out to him; a child aged 6 should be able to define correctly, in terms of use, at least four of the following six things: chair, horse, fork, doll, picture, table; a child aged 8 should be able to count backwards correctly from 20 to 1; a child aged 11 should be able to say correctly what is absurd about three out of five statements similar to the following: "A soldier writing a letter to his mother started like this, 'Dear Mother, I am writing this with a sword in one hand and a pistol in the other'"; and a child aged 15 should be able to repeat backwards six digits read out to him.

In restandardizing the test on different groups of children, as, e.g., L. M. Terman and C. Burt have done,[2] it has sometimes proved necessary to make different age assignments from the original ones

[1] Burt has shown, however, that a better procedure is to allot a question to a particular mental age, when 50 per cent of the children who are chronologically a year younger can pass it; see (6), p. 140.

[2] The revisions of the Binet scale to which reference will be made in this chapter are the Stanford-Binet (43), the Burt-Binet (6), the Burt-Stanford-Binet (unpublished), and the New Stanford-Binet (44). The expression "tests of the Binet type" may be understood to refer to any of the revisions; they have in common certain principles which determine the basis on which the tests are selected. In the same way the expression "tests of the Spearman type" may be understood to refer to tests which, though not necessarily devised by Spearman himself, have been selected on the statistical basis of the 'two factor' theory (see Section III).

of Binet. This is partly due to the translation of the French instructions into English idiom, which may alter the difficulty of the test, and partly perhaps to slight differences in the rate of mental development between different groups. Thus Burt found that, in comparison with other children tested by the scale, those attending London elementary schools appeared to be somewhat precocious.

Out of Binet's work with intelligence tests arose his exceedingly important concept of ' mental age ' (M.A.). The child of 9 should theoretically be able to pass all the tests up to, and including, the ones designated for age IX (M.A.),[1] but should fail in every test for a later age. In practice this is rarely found to be the case, however, the child sometimes failing on a few tests below those for his age, and succeeding on a few above. In order to estimate his mental age, therefore, one credits him with the mental age corresponding to the highest year for which he passes all the tests, adds the appropriate fraction of a year for the proportion of tests passed in the case of higher ages, and subtracts the appropriate fraction for tests failed for lower years. Thus if a child passes all the tests for age VIII, three out of six for age IX, one out of six for age X, and none for higher ages, he will have a mental age of VIII years + VI months + II months = VIII years VIII months. If, in spite of passing all the tests for age VIII, the same child failed in one out of six tests for age VII, but in none of the tests for lower ages which he may have been given, his mental age will be VIII years VI months.

In order to make the comparison between children of different mental ages easy, W. Stern and L. M. Terman subsequently proposed the adoption of the term ' Intelligence Quotient ' (I.Q.). This is obtained from the fraction $\frac{\text{M.A.}}{\text{C.A.}} \times 100$ (where C.A. = chronological age).[2] A child of 8 with a mental age of X will therefore have an I.Q. of 125, which is the same as that of a child of 10 with a mental age of XII years VI months, and a child of 10 with a mental age of VIII years VI months will have the same I.Q. (85) as a child of 13 with a mental age of XI. Fractions are ignored, the I.Q. being given to the nearest integer.

Other methods of standardizing intelligence test scores have been employed, one of which is the percentile method. It is independent of the

[1] Mental age is shown by Roman numerals, chronological age by Arabic.
[2] Burt and others refer to this fraction as the 'Mental Ratio'

size or character of the units employed, and may be used to represent in percentage terms the rank or standing of a child in relation to other children of his age. The least intelligent child will be in the first percentile rank, the

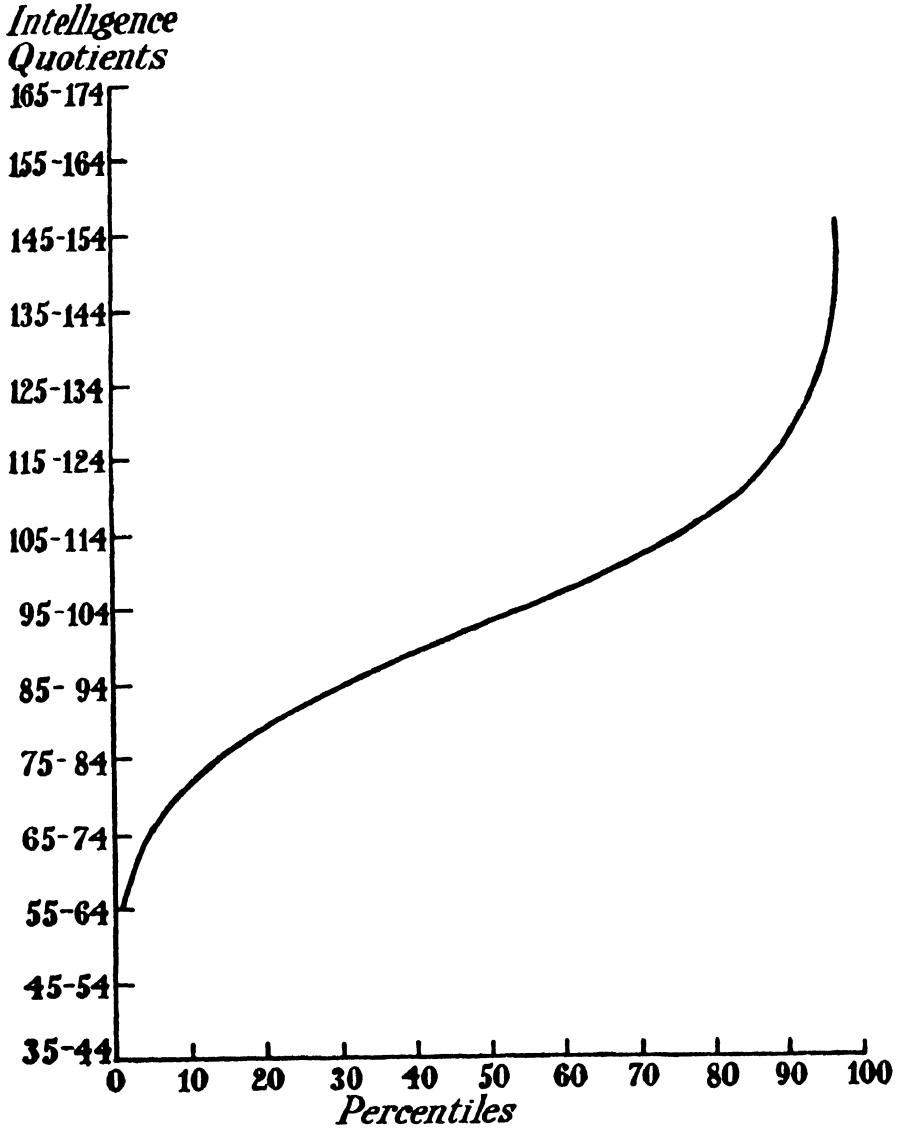


FIGURE 1

INTELLIGENCE QUOTIENTS CORRESPONDING TO PERCENTILES

After L. M. Terman and M. A. Merrill, *Measuring Intelligence.*

average child in the fiftieth, and the most intelligent in the hundredth. A percentile rank is not quite the same as a percentile. If, for example,

a child is 10th from the bottom in intelligence in a group of 100 children, his percentile rank is 10, but his percentile is 9·5. However, the principle is the same in both cases.[1] The percentile method was first proposed by F. Galton ; it is recommended as the most reliable way of scoring the Merrill-Palmer scale (see Section VIII), and it is used at the National Institute of Industrial Psychology for scoring the group tests devised there.

However, the form in which the results are expressed sometimes leads to misinterpretation by persons unfamiliar with statistics. Apart from the more readily remediable fault of thinking that a percentile of, say, 50 represents a gain of 50 per cent of the possible marks in a test, it must always be borne in mind that the significance of a given percentile difference varies according to the part of the scale in which it occurs. Since most people are found to be of average intelligence, and very few are either extremely dull or extremely bright, the difference between the 48th and the 53rd percentiles (or percentile ranks) is small compared with the difference between the 5th and the 10th, or between the 90th and the 95th. This is illustrated by Figure 1,[2] which represents in percentile terms the distribution of the I.Q.'s of 2,904 persons, aged from 2 to 18, who were tested in America with the New Stanford-Binet test.

Another method of standardizing intelligence test scores is by means of the ' standard deviation '. This is also a statistical unit, the calculation of which need not be considered here.[3] It indicates how far a given individual diverges from the average, either above or below. Burt has constantly recommended its adoption as a unit of measurement in intelligence test scoring,[4] and Terman and Merrill (44) provide a table for converting I.Q. scores, derived from the New Stanford-Binet scale, into standard deviation scores. The standard deviation amounts to approximately 17 I.Q. points in each age group ; consequently an I.Q. of 117 represents a standard deviation of + 1, 134 of + 2, 83 of − 1, 66 of −2, and so on.

'When a child is re-tested after a lapse of time, it is found that there is usually a fairly close agreement between the I.Q.'s obtained in the first and second tests.[5] Thus a child with an I.Q. of 125 at the age of 8 will usually have approximately the same I.Q. when he reaches the age of 10 or 12, provided that in both tests he has had

[1] See Yule and Kendall (50), pp. 150–1 ; also Galton (13), p. 37.

[2] This figure is redrafted from Terman's frequency-distribution curve in (44), p. 37.

[3] See Chapter VI, Section IV ; also Yule and Kendall (50) and Dawson (10).

[4] (5), pp. 21–4.

[5] For a review of the literature on the equivalence of test and re-test scores see Nemzek (30). Nemzek analyses the results from 247 papers on the subject, finding that the average re-test correlation when the Stanford-Binet test has been used is + ·832, and when group tests have been used + ·846.

adequate incentives, and has not been prevented by emotional or temperamental factors from doing his best. While his mental age increases as he grows older, his intelligence *level* remains the same. The growth of mental age continues until he reaches the age of between 14 and 16, although more slowly as this age is approached, but then it stops, even if there is a subsequent increase in experience, knowledge, and skill. In order to estimate the I.Q. of an adult, therefore, his mental age as measured by the Binet tests is divided, not by his actual age, but by the age at which mental growth is supposed to stop. By some testers this is taken to be 16, by others 14.

Another method of estimating the I.Q. of an adult is to assume that the distribution of intelligence levels corresponds approximately to what is known as the ' normal curve of error '.[1] Very few people have very little intelligence, more have more, and most have an average amount ; fewer have more than the average, and very few have very much. According to this assumption, the distribution of intelligence can be represented in the form of a mathematical curve with known properties. If, then, a sufficient number and range of questions are included in a test, an adult's intelligence level can be estimated according to the relation of his performance to that of other adults, and this level may be expressed in terms of I.Q., percentile rank, standard deviation, or other unit.

It must be admitted, however, that the Binet scale is not very satisfactory when used on adults. Apart from the fact that there are far too few tests for the higher mental age groups, the form in which some of the questions are worded is apt to appear childish to the average adult, who may react in a contemptuous, rather than in a co-operative way. Nevertheless the vocabulary test, estimated by Terman to be worth at least three of any of the other tests in the Binet scale, is very appropriate for testing adults. It consists of a series of words of gradually increasing difficulty, which the subject has to explain. Critics have sometimes wondered how what appears to be merely a test of the number of words an individual knows can be a test of intelligence at all. The answer is that these words have to be described in other words, and the relationship of their meaning to that of other words must, therefore, be clearly understood. All that is necessary, when using this as a test of intelligence, is to select the words carefully enough, so as not to

[1] See Chapter VI, Section IV.

favour any one special line of experience more than others, and to arrange them in a scale of increasing difficulty.[1]

In the New Stanford-Binet scale, some of the shortcomings of the older Binet scales and revisions have been eliminated. Many new tests have been introduced, and the scale has been extended both for the higher and the lower mental ages. In scoring the tests at the upper end of the scale, each test passed is given greater weight than in other parts of the scale. Account is taken of the decreased rate of growth in intelligence between the ages of 13 and 16 years, by decreasing the C.A. divisor at these ages: for example, an actual C.A. of 13 years 6 months is taken to represent a divisor of 13 years 4 months, one of 14 years 6 months is taken to represent a divisor of 14 years 0 months, and so on. For all adults a divisor of 15 years 0 months is used.[2] The result is that the I.Q.'s for the upper age levels are more nearly comparable with I.Q.'s for the lower age levels than was the case with the original scale and its earlier revisions. It is possible for an adult to obtain an I.Q. of 152 on the new scale, compared with a maximum of about 130 on the old scale.[3] An alternative form of the scale has been provided for use either in re-testing, or when coaching in the other tests is suspected.

III. THE SPEARMAN APPROACH

Group tests of intelligence were developed principally in the United States, but the majority of them are not selected in accordance with the statistical principles governing the selection of tests of the Spearman type, of which a short account will be given in this section.

C. E. Spearman declared, as early as 1904, that " all branches of intellectual activity have in common one fundamental function (or group of functions) whereas the remaining or specific elements seem in every case to be different from that in all the others " (41). He proposed to name this common function '*g*' and to abandon the

[1] The vocabulary test, or any other intelligence test, does not tell one the *nature* of intelligence, any more than an ammeter tells one the nature of electricity. It does, however, afford a means of indicating the *amount* of the phenomenon measured that is present.

[2] See (44), pp. 29–31.

[3] For a method of correcting the higher mental ages obtained from the Burt-Stanford-Binet scale, so that higher and more accurate I.Q.'s are obtained, see Vernon (47).

term 'intelligence', which had "so many meanings that finally t has none". Whereas '*g*' is common to all intellectual processes, *s*' is specific to each process.

Spearman was led to the formulation of what is known as the 'two factor' theory by the observation that when a number of individuals did a series of mental tests, and the correlation coefficients between their scores on the different tests was worked out, the correlations tended towards a peculiar arrangement known as the 'hierarchical order', which could be expressed by a mathematical formula known as the 'tetrad equation'.[1] Applying mathematical analysis to this phenomenon, Spearman concluded that if intellectual ability is due to the presence of two factors, one general and the other specific, then the tetrad equation must be satisfied within certain defined limits of error, and conversely that if the tetrad equation is satisfied, then the ability is divisible into two factors, one general and the other specific. It is the converse which is applied in two factor analysis, and which has been subjected to criticism by G. H. Thomson and others (see Section VI).

The establishment of the tetrad equation criterion led Spearman and his followers to select, and to concentrate upon, those tests whose results most nearly satisfied the criterion. In this respect tests of the Spearman type are selected on a different basis from the Binet and other types of intelligence test.

The tests currently used as a measure of '*g*' are almost entirely of the paper-and-pencil type. Spearman's own test (40) is given orally, with written answers, but other tests of this type, e.g. R. B. Cattell's,[2] are entirely paper-and-pencil. Paper-and-pencil tests have the advantage over oral tests, such as the Binet, that they can be given to a group of individuals simultaneously, with a consequent saving of time.[3]

Tests to measure '*g*' share with other group tests the following characteristics. The subject is presented with a booklet containing a number of different tests, and there are usually one or two examples of what he is required to do at the head of each. Little or no writing

[1] See Spearman (39), Chaps. 6 and 10. Knight (24) gives a more popular account of the theory.

[2] Obtainable from Harrap and Co., London.

[3] Differences between group and individual tests are discussed further in Section IV.

is involved, which prevents different writing speeds from affecting the score ; the subject is merely asked to underline the word, among three or four, that represents the correct solution to the problem. The scoring of the test is thus also rendered objective, and it is not necessary to give partial credits, as sometimes occurs when the subject has to invent the correct answer instead of selecting it. The tester is only required to see that the time limits, if any, are observed, although these are often quite generous, and then to score the answers, a task made easy by the provision of a key.

The examples of the kind of test used to measure '*g*' which are given below are very simple, but some of the tests contain problems of great complexity.

Analogies . . .	*Black* is to *White* as *Big* is to HEAVY, BRIGHT, LITTLE, MAN.
Synonyms and Antonyms	*Ill* means the same or nearly the same as BEAUTIFUL, FINE, BRIGHT, UNWELL. *Good* is the opposite of WHITE, BAD, TINY, FALSE.
Mixed Sentences . .	Through air fly birds the TRUE, FALSE.
Classification . .	The subject is required to underline the word which is in a different category from the others : CHAIR, TABLE, WHEAT, RUG, CURTAIN.
Number Series . .	The subject is required to pick out the two numbers which continue the following series : 1, 3, 5, 7, 9, . . . 10, 11, 12, 13, 14.
Codes . . .	A message has to be transcribed according to some principle, such as that each letter must be represented by the letter that precedes it in the alphabet.
Inferences . . .	Jack is taller than Bill, but not so tall as Tommy. Which is the tallest ? : JACK, BILL, TOMMY.

IV. COMPARISON BETWEEN THE BINET AND THE SPEARMAN APPROACHES

It is useful to compare the '*g*' test situation with that of the Binet test. As a result of mathematical reasoning, based on the observation that the tetrad equation is satisfied in a number of

tests, the '*g*' tests are selected with a view to satisfying statistical, rather than psychological, criteria as nearly as possible. The Binet tests, on the other hand, are selected with a view to approximating closely to the problems and situations which individuals are considered likely to encounter in the course of their ordinary lives. Because of this difference in the basis of selection, and the lack of an agreed interpretation of '*g*' in psychological terms,[1] it is difficult to know how far the two types of test are measuring similar things. That they are to some extent measuring similar things is shown by the fact that there is usually a fair correlation between their results.

In common with other group tests of intelligence, the '*g*' tests differ from the Binet tests in method of presentation. In the '*g*' type, the subject is given written instructions to draw lines under appropriate words. Even when the test is given individually, each subject is encouraged to do his best in exactly the same way as every other subject; there is no modification to suit temperamental differences. This procedure is considered desirable in the interests of standardization, and when the tests are given as group tests it is argued that in some cases, at least, the 'social stimulation' of the group acts as an incentive.

In giving a Binet test, on the other hand, the tester can encourage the subjects individually, in whatever way seems most likely to induce them to exert themselves to their maximum capacity. The results thus attained are regarded as providing a better indication of the individuals' true abilities, than if all had been presented with the same objective situation. Moreover it is claimed that the Binet situation permits the tester to estimate immediately whether a low score is due to inhibiting emotional factors, or to an innate lack of intelligence. If '*g*' type or other group tests are given, this can only be estimated after further investigation.

[1] Dr. R. H. Thouless has suggested, in a personal communication, that '*G*' should be used for general ability and '*g*' for the general factor. The term '*G*' would then include psychological interpretation. This distinction would certainly be an improvement on the present convention, according to which both '*G*' and '*g*' appear to be used sometimes for one and sometimes for the other, the reader being apt to infer that the psychological interpretation is as much based on statistical evidence as is the general factor theory. Yet as soon as psychological interpretation is introduced it may lead us back to the position from which Spearman was anxious to break away in 1904. '*G*' may be given so many meanings that finally it has none.

The Binet situation, however, makes far greater demands on the examiner. The high degree of objective standardization of the '*g*' and other group tests is intended to make the administering of the tests foolproof, so that reliable scores may be obtained even when the tests are applied by examiners with minimal testing experience. If the Binet tests are to be reliable, on the other hand, they must be administered by examiners who are not only experienced, but are also capable of adopting an understanding and sympathetic attitude towards the different kinds of children they test. The type of encouragement that is successful with one child may fail completely with another; the tests which most interest one may bore another.

With younger children the testing can often be approached through toys, the tests being given in the form of new games. With older children Burt (6) and others recommend that the initial test should be a shock absorber, selected because it almost invariably serves to arouse the child's interest. But L. M. Terman and M. A. Merrill (44) emphasize the point, which indeed Burt did not fail to note, that any deviation from the order in which the tests have been standardized, such as by giving a child in immediate succession tests which occur at different age levels, may change the difficulty of the scale by an unknown amount. Nevertheless, if the examiner notices that a child's effort is diminishing with regard to a certain type of test, it may be well to introduce one that will interest him more, and return to the other type later.[1] The New Stanford-Binet has been arranged with a view to involving a minimum of monotony.

Coaching is often employed in preparing children for school examinations, but it defeats the purpose of an intelligence test examination. The object of both group and individual tests is to provide different children with conditions in which their true abilities can be ascertained, and the effect of coaching is to nullify this purpose.[2] Practice tests, based on the same principles as the tests proper which are to follow, are often provided in the group test situation to act as shock absorbers, much as the initial Binet test is

[1] Many suggestions concerning the administration of the Binet scale, and the precautions which it is necessary to take, will be found in, e.g., Burt (6), pp. 9 ff., Terman and Merrill (44), Chap. 4, and Hunt and Smith (19).

[2] See Nemzek (30) and Hunt and Smith (19).

often selected to do. Practice tests are, however, quite different in effect from coaching in the actual questions subsequently asked.

The Binet situation has the advantage over the group test situation that coaching can more easily be discovered. The greater the experience of the examiner, the easier it is for him to differentiate between a genuine answer and one that is the result of specific coaching. Suspicions may, for instance, be aroused if answers are given instantaneously and monotonously, or in a phraseology inconsistent with the child's normal mode of expression. Such clues are not available in the group test situation, where a number of children are tested at the same time, and they are also less likely to appear when a paper-and-pencil test is given individually. The point is important, also, in emphasizing the necessity for considerable clinical experience before the most accurate results can be obtained from a Binet test.[1]

V. INTELLIGENCE TESTS AS BATTERIES RATHER THAN AS SCALES

The tests mentioned hitherto have been designed for presentation as scales. The whole scale, or a large part of it, must be applied before a person's level of intelligence can be determined. G. H. Kent (21), however, who appreciates the value of the individual question-and-answer method of testing, considers that neither the Binet scale nor the existing group tests are sufficiently flexible for adaptation to the tastes and interests of the varied types of patients that pass through a clinic. In her view a composite scale, which must be applied as a whole, may give results which are very unfair to some patients. Furthermore, since the time available for testing is usually very limited in clinical situations, the use of a whole scale may be wasteful, involving as it does the application of much non-discriminative material at both the upper and the lower ends of the patient's range.

Kent, therefore, recommends the development of a battery of language tests, on the lines of the Pintner and Paterson performance battery.[2] Items which can be graded in difficulty should be selected, arranged in a series, and standardized as an independent unit. Each unit should be so graded as to cover the entire range of mental

[1] See also Chapter XI. [2] See Section VII.

levels for which it is appropriate, but for the sake of economy of presentation the standardization should be achieved for overlapping sections as well as for the series as a whole. If a sufficient number of these test units were constructed, an examiner would be in a position to make up a battery by selecting, in a given case, only the units best suited to the patient concerned. The examination would thus be arranged to fit the patient, instead of the patient being expected to fit the test.

An additional advantage to be gained by having a loose collection of independently standardized units would be that out-of-date items could be dropped, or new units introduced, as occasion required, without disturbing the other units in the battery. In contrast, a fixed scale, standardized as a whole, becomes increasingly unsatisfactory with the passage of time.

Such a battery of units would yield a series of independent ratings. Kent suggests that if it is held necessary to represent a patient's score by a single figure, the median of the ratings could be used for reference.

It is to be hoped that the new type of test proposed by Kent will be given a trial in this country.[1] Any worker may contribute to the development of a battery by helping to standardize some test item or items in which he is particularly interested. The final result would, of course, be an instrument that diverged even more sharply than the Binet scale from the objective similarity of group tests or '*g*' tests. The proposal is, however, defended on the grounds set out above, and further with the argument that intelligence cannot be measured as an entity, but only as a type of behaviour. No physician who is asked to give a report on a patient would think of expressing his findings in terms of a 'Physical Quotient', and similarly no psychologist, according to this view, should be asked to express his report in terms of an Intelligence Quotient. Mental characteristics are at least as variable as physical. The comparison between individuals should, it is urged, be based on differences in their behaviour, judged by the type of test in which they excel or fail, and not on their possession of a few points more or less of an abstract entity.

[1] Kent (22) has published a preliminary battery of this type which she has devised, but it has not yet been adapted or standardized for use in this country.

VI. THE THEORIES OF THOMSON AND THORNDIKE

The mathematical basis of Spearman's theory has been criticized by G. H. Thomson. He does not deny the theorem that if intellectual abilities are due to two factors, one general and the other specific, then the tetrad equation will be true ; but he does deny the converse of this theorem, which forms the practical basis of Spearman's position, namely, that when the tetrad equation is found, then the intellectual abilities are *necessarily* due to the presence of a general and a specific factor.

The intellectual abilities may, Thomson maintains, be due to overlapping group factors, one ability being caused by the factors *abcd*, another by the factors *bcde*, a third by the factors *acdf*, and so on, the factors involved in carrying out a mental test being a sample of all those which the individual possesses. Thomson claims that his theory makes fewer assumptions than Spearman's. " It does not deny General Ability, for if the samples are large there will, of course, be factors common to all activities. On the other hand it does not assert General Ability, for the samples may not be so large as this, and no single factor may occur in every activity. . . . In other words General Ability, if possessed by any individual, need not be psychologically of the same nature as any General Ability possessed by another individual. Everyone has probably known men who were good all round, but Jones may be a good all round man for different reasons from those which make Smith good all round." [1] Thomson's sampling theory, therefore, does not deny that the two factor theory may be true ; what it denies is that it must necessarily be true.

In practice, however, there is far less difference between the types of test employed by Spearman and by Thomson than between both of them and tests of the Binet type. The difference between Spearman and Thomson is more theoretical than practical.

E. L. Thorndike regards intelligence as being composed of a series of discrete traits, and proposes as a background to his theory a physiological hypothesis based on the number of connections in the cortex, a person with a higher level of intelligence possessing a greater number of connections than a person with a lower level of intelligence. Thorndike expresses the hope that it will eventually

[1] Brown and Thomson (4), pp. 188–9. See also Thomson (45).

be possible to replace the present methods of measuring intelligence by means of a sample inventory of tasks, with a direct physiological measurement of the number of connections.

Four of the traits, called C A V D (Completions, Arithmetical Problems, Vocabulary, Directions), Thorndike (46) examines at length in his book. He points out that intelligence may be C A V D, or C A V D plus ability in supplying the Opposites of Words = C A V D O, or the latter plus insight into Spatial Relations = C A V D O S, and so on. Thorndike distinguishes three different types of intelligence, however: (1) abstract, investigated by tests for C A V D, etc.; (2) mechanical, studied by means of tasks involving responses to material objects present to sense; and (3) social, studied by means of tasks involving responses to human beings. He admits that it is difficult to devise tests to measure the third category.

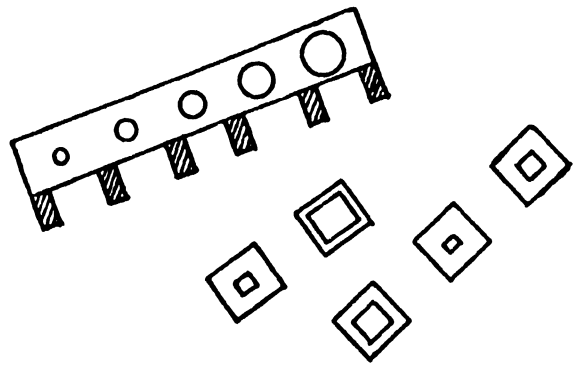
VII. NON-VERBAL, PERCEPTUAL, AND PERFORMANCE TESTS OF INTELLIGENCE

In order to eliminate the language factor, which enters into all the tests so far described, various attempts have been made to produce intelligence tests of a non-verbal type. In the American Army tests used during the Great War two scales were provided, one of which, the Army Beta, was in non-verbal form and was used for testing men of foreign descent, as well as illiterates.[1] An example from this country is Sleight's non-verbal intelligence test,[2] a group test designed for children between the ages of 6 and 10 years. The ten component tests include the substitution, classification, series continuation, and other types, but arranged in the form of pictures or drawings. For instance, instead of the words 'TRUMPET, TABLE, VIOLIN, DRUM', pictures of these objects are presented, and the child is told to mark a ring round the object that is in a different class from the others. The test is thus based on the same principles as those previously discussed, the form alone differing. There are also a few non-verbal items in Cattell's mainly verbal group tests of intelligence, scales 2 and 3.[2]

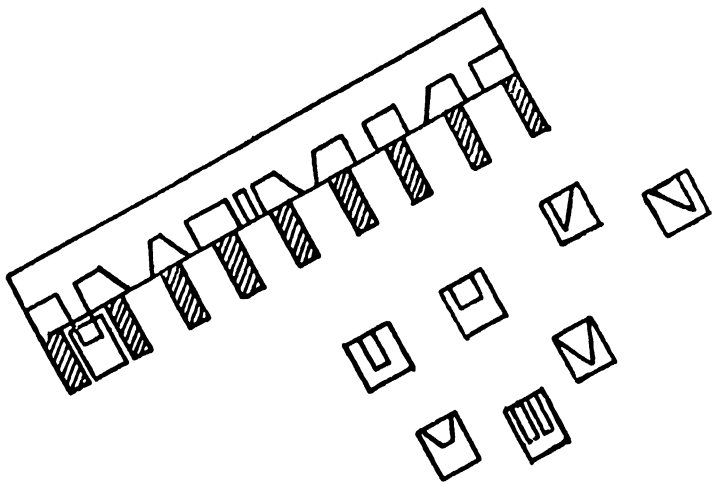
[1] See Yoakum and Yerkes (49). Another American non-verbal test is the Otis Primary, which has been modified for use in this country by Lewis and Burt (obtainable from Harrap and Co., London).

[2] Obtainable from Harrap and Co., London.

R. G. Leiter (25) has devised a scale, based on the matching technique, which is intended to be as far as possible independent of



Size Gradations
(Test for Age VII)



Line Completion
(Test for Age XI)

FIGURE 2

EXAMPLES OF PERFORMANCE TESTS

After R. G. Leiter, "The Leiter International Performance Scale," *University of Hawaii Research Publications*, 1936.

cultural background, of the time element, and of pantomimic instructions to the subject. It has been carefully standardized, and used for comparing the intelligence of different races, e.g. the Chinese and Japanese in Hawaii. It consists of two tests for each year between the ages of V and X, and one for each year from XI to XVI. A shorter form of the scale was used by Porteus for primitive peoples (see Chapter VIII).

The principle of the test is the matching of appropriate designs. In a test for year VII, for example, a strip on which five graduated circles are drawn is placed before the subject, and he is also given five books, on each of which is drawn a square of different size. The subject merely has to arrange the squares in a graduated series corresponding to that of the circles drawn on the strip. Figure 2 illustrates this Size Gradations test, as well as the Line Completion type from the same scale.

Different principles are involved in the perceptual tests developed by L. S. Penrose and J. C. Raven (33). Their series [1] is based on the Analogies type of verbal test, and the general structure may contain four or nine elements, or be even more complex. The structure containing four elements is of the general form :

$$\begin{matrix} & A & & f(A) \\ f' & (A) & & f'\,[f(A)] \end{matrix}$$

If the eyes move horizontally, the right-hand figure is seen to bear a certain relationship to the left-hand figure, whereas if they move vertically, the lower figure is seen to bear a similar type of relationship to the upper figure. The relationship may be one of similarity, opposition, or addition (see Figure 3). The subject is presented with a board on which there are three figures and a blank space ; he is also given a number of loose blocks on which are printed different designs. He has to select the block bearing the correct design and insert it in the lower right-hand corner of the board, so that the analogy between the designs is completed. The required answer can be inferred by making either horizontal or vertical comparisons.

More complicated relationships are involved when the structure contains nine elements. The subject must notice that whatever

[1] Obtainable from H. K. Lewis and Co., London.

occurs in both the first and second rows or columns determines what occurs in the third, and thus arrive at the ninth figure.

A number of other tests of a non-verbal nature are commonly

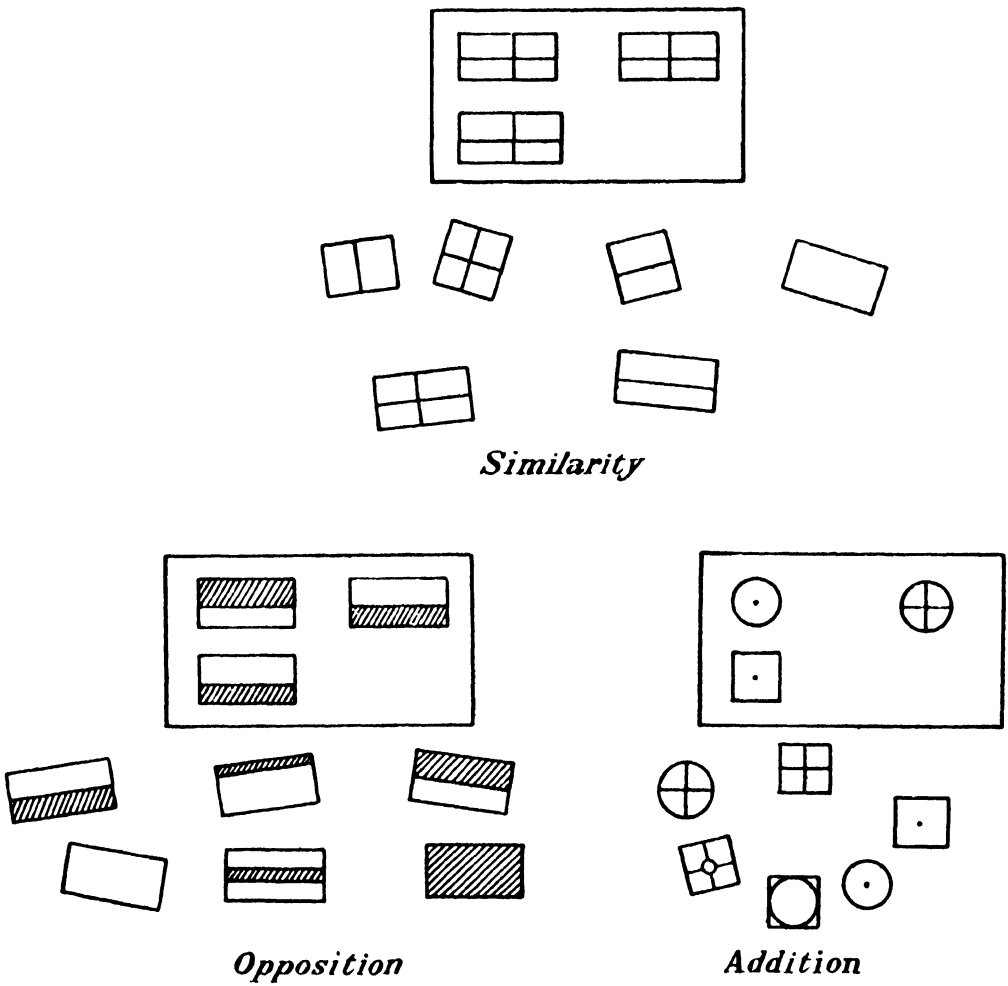


FIGURE 3

EXAMPLES OF PERCEPTUAL TESTS

Adapted from L. S. Penrose and J. C. Raven, "A new series of perceptual tests," *British Journal of Psychology* (*Medical Section*), 1936.

referred to as 'performance tests of intelligence'. They were originally devised to test deaf children, illiterates, and foreigners, but they are of general value in that they test an individual's

intelligence in a setting of concrete situations. Although the results obtained from 'performance' and from verbal tests often agree closely, there is sometimes a considerable difference between them, an individual who shines in one type making a poor score in the other.[1] Even in the Binet scale there are not enough concrete situations, and it is therefore wise to supplement it by applying one or two performance tests as well.

Performance tests are fully described by R. Pintner and R. Paterson (34), G. Arthur (2), and J. Drever and M. Collins (11), all of whom provide complete scales for the measurement of intelligence, based on a large number of different performance tests. Norms for each test item standardized separately are also given by Pintner and Paterson (34) and by Arthur (2), with the consequent advantage that their scales may be used alternatively as batteries containing a larger or smaller number of items (see Section V, above).

A shorter scale is that of W. P. Alexander (1). It consists of three tests only, the Passalong, which Alexander devised himself, the Cube Construction, and Kohs' Blocks. The last two are presented in the modified form adopted by Drever and Collins, although the method of scoring is different. It is probably the most satisfactory scale for adults, and for children above the age of ten, but the tests are too difficult for younger children.

On the basis of his results Alexander was led to the conclusion that performance tests, or at least the ones he has employed, make demands on somewhat different abilities from those assessed by verbal tests of intelligence. Statistical analysis revealed that, in addition to '*g*', a practical factor (*F*) was essential to success in the tests.

This conclusion, if confirmed, would furnish an additional reason for using performance tests, particularly after intelligence has already been measured by the verbal method. Indeed, when there is not enough time to give a whole performance scale, the inclusion of even one or two separate tests, particularly if they are sufficiently difficult, is often invaluable, not only because the results tend to

[1] Drever and Collins (11) write: "If by 'intelligence' we mean good sense or judgment as manifested in the various situations which life presents, then to test a child's intelligence by testing only his ability to deal with ideas and symbols is neither satisfactory nor adequate" (p. 10).

balance the results of verbal tests, but also because of the indications they provide of temperamental characteristics.[1] From the manner in which the individual does the tests one may discover, even more easily than in the Binet test situation, how he reacts when working under pressure, whether he is inhibited or aggressive, quick or slow, co-operative or negativistic, self-conscious or assured, easily affected by praise, either advantageously or delcteriously, or unaffected by it, and so on. Among the best known and most frequently applied performance tests are Kohs' Blocks, the Healy Picture Completion (Nos. 1 and 2), the Seguin-Goddard Formboard, the Cube Construction, the Cube Imitation, and the Porteus Mazes.[2]

Performance tests have, however, certain disadvantages. They take a long time to do, many are expensive, and the norms which are available in this country are still, for the most part, inadequately standardized.[3]

VIII. TESTS FOR VERY YOUNG CHILDREN

The Binet scale and its earlier revisions are not considered very satisfactory for testing the intelligence of children under the age of about 5 years, and other scales have often been employed. However, the New Stanford-Binet scale includes tests for half-year intervals between the ages of II and V, which are as carefully standardized as the tests in other parts of the scale, and have been made more interesting and attractive to younger children than were the tests for the lower age grades in the former Binet scales.

Among other tests for early ages are Cattell's (8), based on Spearman's principles, applicable to children from 4 to 8 years

[1] See Chapter X, Section IV, C.

[2] See (34), (2), or (11).

[3] The norms employed most frequently in this country for a number of performance tests may be found in Gaw (14). Some clinical workers are not, however, entirely satisfied with these norms, and prefer to use the American norms given by Pintner and Paterson (34) or Arthur (2). New norms for some of the tests, based largely on child guidance material, may be found in Vernon (47), and Cattell (8) also gives fresh norms for some of the tests mentioned. There is, however, a great need for a complete and thorough restandardization of many of the tests, over a wide age range, for use in this country.

old. For testing children younger than this many clinics use the Gesell Development Schedule [1] or the Merrill-Palmer scale.

A. Gesell (15) has developed over forty tests, arranged in motor, language, adaptive, and personal-social behaviour groups, and designed for the neonate and the 4, 6, 12, 18, 24, 36, 48, and 60 months' old child. Exact scores are not given, but the performances are classified according to the frequency with which each item of behaviour has been found to occur at a definite age level. When the various items are scored on this basis it is possible to obtain a general idea of the child's stage of development. Gesell has intentionally arranged the scoring of the tests so as to avoid giving an exact I.Q.

The Merrill-Palmer scale [2] consists of 38 tests, selected from among 79, and providing 93 separate diagnostic items. The range of the scale is from 18 to 72 months. The tests are of different types, including language tests, 'all or none' tests, 'formboard' and picture tests, and other tests of motor co-ordination. The different types of test are scattered about in the scale, which is so constructed as to approximate closely to a play situation, although the actual performance is standardized as soon as full co-operation has been obtained from the child. Tests are marked 'passed' or 'failed', 'omitted' or 'refused', the last category designating those in which the tester failed to gain the child's co-operation. In estimating the final score, refused tests do not necessarily count against the child, as they do in some of the scales which involve a very rigidly standardized procedure.

IX. DRAWING TESTS OF INTELLIGENCE OR SCHOLASTIC ATTAINMENT

F. L. Goodenough (16) has devised a technique for measuring children's intelligence by asking them to draw a picture of a man. The resultant drawing is subjected to a detailed analysis, and scored on the basis of what is included or omitted, the final score giving

[1] Cf. Chapter IV, Section I, C.

[2] Stutsman (42). English norms, by H. Bristol, may be found in Hamley (17), p. 45; they are about five points stricter than the American norms over the whole range. Some clinicians still prefer to use the American norms.

an indication of the child's mental age. Recently M. Kerr (23) has suggested that drawings of houses may also be used to measure intelligence.

Other authorities prefer to regard drawings as indications of scholastic attainment rather than of intelligence. The child's drawing is compared with median samples for different age levels, and used, together with other scholastic tests (e.g. for reading, arithmetic, spelling, and composition), in diagnosing 'educational retardation'.[1] This term is used to describe cases where a child's 'educational age', as judged by such tests, falls below a certain percentage of his mental age, as judged by intelligence tests.[2]

X. SOME APPLICATIONS OF INTELLIGENCE TESTS

A. TESTING THE INTELLIGENCE OF ADULTS

It was remarked in Section II that intelligence tests were often less appropriately applied to adults than to children, partly because adults are sometimes apt to behave antagonistically rather than co-operatively. Their antagonism may arise from the fact that whereas children are accustomed to being given tests and examinations of various kinds, most adults discard them with their school days. This enhances the difficulty of interpreting with any exactitude the meaning of the scores which adults obtain in an intelligence test.

It is ridiculous, for example, to regard an adult with a mental age of IX years as identical in mentality with a normal child of 9. Applied to adults, the concept of mental ages clearly ceases to possess the practical meaning which it has when used as a basis for comparing two children. The only line of defence is to argue that an adult with a mental age of IX years has more in common intellectually with an average child of 9 than he has with a normal adult. Nevertheless, T. Simon (37), who is amongst those holding this view, says that he prefers to use more qualitative terms, such as 'moron', 'imbecile', or 'idiot', which are analogous to the term 'dwarf' for the physically defective, when he is referring to the intelligence of subnormal adults.

Clearly, a true basis for comparison between adults would emerge

[1] See Burt (6) and Cattell (8).

[2] See Burt (6), pp. 34–6 and Chapter 4. See also Section X, D, below.

only from tests standardized on adults. It would, indeed, be desirable to standardize fresh tests on different groups of adults, e.g. morons, mental defectives, normal adults, and superior adults, so that an individual could be compared, if necessary, with more than one of the different groups. Since, however, there is little likelihood of such an undertaking being carried through in the near future, a more practicable proposal would be to try out the technique of testing by batteries instead of scales,[1] until a sufficient number and range of independently standardized tests were developed to allow scope for the selection of those most appropriate to adults of different types.

When adults of different ages are tested with the existing scales, a decline in efficiency with age is often reported. For instance, H. E. Jones and H. S. Conrad (20) gave an intelligence test to nearly 1,200 people, varying in age from 10 to 60 years. The investigators found that there was a rapid increase in intelligence from 10 to 16 years, a slower increase until between 18 and 21 years, and then a decrease continuing until 55 years, when intelligence was equivalent to the average at the age of 14. They were of the opinion that the decrease was genuine, and not attributable to poorer motivation, hearing, sight, speed, or similar factors. W. R. Miles (29), however, has concluded from his research that the principal decline with increasing years is in physiological abilities, and that abilities on the intellectual level show a greater loss in speed of response than in accuracy. He investigated the scores of 800 men and 800 women, varying in age from 10 to 90 years, who were given, individually, a large number of different tests, in four consecutive half-hour sessions.

In interpreting the results of tests on adults it is always necessary to take into consideration the effect of lack of practice. H. Sorensen (38) believes that this factor is sufficient to account for the decline. He found a negative correlation between age and learning ability in a group of adults who had not studied for a long time, but no such correlation for two other groups of adults who had continued learning. He considers, therefore, that there is no true decline in ability to learn with age.

Rustiness accounts, no doubt, for part of the decline, but it is doubtful whether it is of sufficient importance to account for it all.

[1] See Section V, above.

B. MENTAL DETERIORATION

Within the last few years an increasing interest has been shown in the use of tests for differentiating between mental deterioration and mental defect. As early as 1914, B. Hart and C. E. Spearman (18) gave different groups of psychotic patients a large number of tests, and compared their performance with that of normal people. But most of the recent interest in the subject has followed the publication of the Babcock Deterioration Test (3) in 1930.

This test was based on the theory that an individual's score in the Vocabulary test is little affected by deterioration, whereas his score in tests which involve the application of new knowledge may be greatly affected. When, therefore, a large discrepancy is observed between a subject's scores in the two types of test—the Vocabulary score being, let us say, that of the normal adult, while the average score on the other tests is that of the normal child of 8—deterioration is indicated; whereas if the adult obtains the score of the normal child of 8 on both the Vocabulary and the other tests, it is a symptom of original defect.

H. Babcock presented her tests as a battery, each being standardized independently for all mental ages. It is not necessary, therefore, to use every test in the battery when it is applied. Subsequent work has confirmed the belief in the validity of the Vocabulary score as an indication of the original mental level, except in very severe cases of mental deterioration and in some cases of general paralysis.

The work of Hart and Spearman has been continued by C. Simmins (36), who applied visual-perceptual and Vocabulary tests to 200 mental hospital patients, and by comparing the patients' scores on the two types of tests obtained a measure of the degree of the deterioration. P. Wittman (48) has also attempted to show that different types of organic deterioration, e.g. epilepsy, paresis, arterio-sclerosis, and alcoholism, give different patterns of response in the Babcock Deterioration Test, some types doing relatively better or worse than others in different test items.

The same problem has been approached by W. Malamud and E. M. Palmer (28), who made use of the shortened form of the Stanford-Binet test. They compared the performance of 100 schizophrenic, 100 organically deteriorated, and 100 feeble-minded patients, whose mental ages all ranged between VIII and XII

years. They were able to show that each of the three types of patients found different tests easier or more difficult, and the investigators maintain that the differences were sufficiently marked to be described in terms of objectively recognizable patterns of scatter, which proved useful both in differentiating diagnostically between the three groups, and for purposes of gaining insight into the qualitative nature of the deterioration.

C. UNRECOGNIZED SUPERIORITY

In schools the application of intelligence tests has sometimes led to the discovery of children whose mental superiority was previously unsuspected. A child of superior intelligence, if his superiority has not been recognized, may find insufficient means of expression in a class of children where the average level of intelligence is much below his own. He may, therefore, exhibit unsocial behaviour and pay little attention to his school work, with the result that he does not appear superior, but rather inferior, to the rest of the children. The disclosure of his superior intelligence makes possible special treatment, directed towards enabling him to find a more adequate outlet for his abilities.

D. EDUCATIONAL RETARDATION

In other cases the application of an intelligence test may indicate that a child who is backward in school subjects is yet of normal intelligence. Sometimes the backwardness is general, but more often it is specific to reading or arithmetic. Educational backwardness may be discovered by applying standardized tests for different school subjects, e.g. reading, arithmetic, spelling, etc., and comparing the child's educational age in these subjects with his mental age. This provides what Burt calls an 'Achievement Ratio' $= \frac{\text{Educational Age}}{\text{Mental Age}} \times 100$.

The achievement ratio may be calculated for each school subject separately, or for all together. If the ratio is 100, then the child's scholastic attainments are keeping pace with his innate intelligence. If the ratio is much below 100, it may indicate that the child has missed a lot of schooling, or that he is lazy, or that unsuitable methods of teaching have been employed. The last may be remedied

by providing him with special, individual coaching by someone who has specialized in the work. Such children form the most satisfactory material for special coaching. Far less advantageous results are obtained when special coaching is given to educationally retarded children whose level of intelligence is also much below normal.[1]

E. INTELLIGENCE AND DELINQUENCY

The question of the relationship between intelligence and delinquency is one that is often raised, but the evidence is rather conflicting.[2] Some studies show that delinquents, particularly those in institutions, or those who come before the courts, are on the average inferior to the general population in intelligence, while other studies suggest that their scores compare favourably with norms taken from among individuals in the same socio-economic grade as the delinquents themselves. It must be remembered, too, that delinquents of superior intelligence are less likely to be caught, with the result that the average level of intelligence of the whole group of delinquents is probably somewhat above the level indicated by tests applied to those available for investigation.

F. INTELLIGENCE TESTS IN VOCATIONAL GUIDANCE [3]

Intelligence tests are an important item in an examination for vocational guidance. In order to be able to recommend an occupation as the one which a given individual is best fitted to engage in, it is important to know his level of intelligence, as well as his temperamental and other characteristics.

For this purpose the minimum and maximum levels of intelligence in different occupations must also be known. Figures based on the testing of over 18,000 men for the American Army are available [4]; more recent figures, derived from far fewer cases, are given by Cattell (9). Both studies show that, although there is considerable overlap, the average intelligence level in various

[1] For a full discussion of the problems connected with educational retardation and generally backward children, see Burt (5).

[2] For a short summary of the evidence, and references, see Loutit (26), pp. 373–5.

[3] See (12), (27), (32), and Chapter XI.

[4] See Yoakum and Yerkes (49).

occupations can be differentiated, ranging from that of labourers and factory hands at one end of the scale to that of school-teachers and engineer officers at the other. Information of this kind tends to make the final vocational recommendation more trustworthy, for the individual can be advised to undertake an occupation which on the one hand will not make too great a demand upon his intelligence, and on the other hand will not be so easy that he will tend to become maladjusted through finding it boring and monotonous.

G. HEREDITY AND ENVIRONMENT

The relative influence of heredity and environment on intelligence is a question with regard to which writers are apt to be carried away by emotional prejudices. The conditions are sufficiently complicated for widely divergent interpretations of the same phenomena to be possible.

Experimental work has been summarized by G. C. Schwesinger (35) and Cattell (7). An important contribution to the subject, published since the appearance of these two works, is the report on a ten-year investigation by H. H. Newman, F. N. Freeman, and K. J. Holzinger (31). They collected information about nineteen pairs of identical twins reared apart since infancy, a greater number than has ever been studied before. Seventeen of the nineteen pairs were separated before they were 2 years old, one pair when about three years old, and one when about six years old. The last case was included because of the abnormally large difference between the environments to which the twins were subsequently exposed.

The period of separation ranged from 11 to 53 years. The pairs differed, however, in the degree of completeness of their separation. In a number of cases it was complete for a very long time, and in six of these the twins learnt of each other's existence only after they had been mistaken for each other. In other cases the twins had visited each other, or had at least communicated with each other, at intervals. The distance between them, both geographically and socially, also varied. At the time of testing the various pairs of twins were from $11\frac{1}{2}$ to 59 years old, with an average of 26 years.

Correlation coefficients were worked out between the intra-pair differences on various tests and differences in the educational,

social, and physical factors which appeared likely to have affected them. Significant positive correlations, ranging from ·46 to ·79, were found between differences in intelligence test scores and in types of education. Some of the differences were remarkably high. Thus, seven of the nineteen pairs differed by 10 points or more in Binet I.Q.; one pair showed a difference of nearly 4 years, two pairs of 3 years, three pairs of 2 years, and four pairs of from 1 to 2 years in mental age. Significant, though lower, positive correlations were also found between the intelligence test differences and the differences in social environment.

The separated identical twins were then compared with two other groups: unseparated identical twins, and unseparated fraternal twins. The differences in intelligence between the separated identical twins were much greater than those between unseparated identical twins, and just as great as the differences between unseparated fraternal twins. The results of the comparisons made are all the more striking because with respect to certain physical characteristics, as shown, for instance, by height and head measurements, the separated identical twins were approximately as much alike as the unseparated identical twins, and much more alike than fraternal twins.

REFERENCES

(1) Alexander, W. P., "Intelligence, concrete and abstract," *Brit. J. Psychol. Monog. Suppl.*, 1935, vi, No. 19. pp. 177.
(2) Arthur, G., *A Point Scale of Performance Tests*. New York: Commonwealth Fund, 1930. pp. 82.
(3) Babcock, H., "An experiment in the measurement of mental deterioration," *Arch. Psychol.*, 1930, No. 117. pp. 105.
(4) Brown, W., and Thomson, G. H., *The Essentials of Mental Measurement*, 3rd ed. Cambridge University Press, 1925. pp. 224.
(5) Burt, C., *The Backward Child*, 1st ed. University of London Press, 1937. pp. 694.
(6) Burt, C., *Mental and Scholastic Tests*, 2nd ed. London: King, 1922. pp. 432.
(7) Cattell, R. B., *The Fight for our National Intelligence*, 1st ed. London: King, 1937. pp. 166.
(8) Cattell, R. B., *A Guide to Mental Testing*, 1st ed. University of London Press, 1936. pp. 312.
(9) Cattell, R. B., "Occupational norms of intelligence and the standardization of an adult intelligence test," *Brit. J. Psychol.*, 1934, xxv, 1–28.
(10) Dawson, S., *An Introduction to the Computation of Statistics*, 1st ed. University of London Press, 1933. pp. 192.

(11) Drever, J., and Collins, M., *Performance Tests of Intelligence*, 2nd ed. Edinburgh : Oliver and Boyd, 1936. pp. 56.
(12) Earle, F. M., *et al.*, *Methods of Choosing a Career*, 1st ed. London : Harrap, 1931. pp. 333.
(13) Galton, F., *Inquiries into Human Faculty*, Everyman ed. London : Dent, 1928. pp. 261.
(14) Gaw, F., " Performance tests of intelligence," *Rep. Industr. Fatigue Res. Bd.*, No. 31. London : H.M. Stationery Office, 1925. pp. 45.
(15) Gesell, A., *The Mental Growth of the Pre-School Child*. New York : Macmillan, 1928. pp. 447.
(16) Goodenough, F. L., *The Measurement of Intelligence by Drawings*, 1st ed. New York : World Book Co., 1926. pp. 177.
(17) Hamley, H. R., *The Testing of Intelligence*, 1st ed. London : Evans, 1935. pp. 175.
(18) Hart, B., and Spearman, C. E., " Mental tests of dementia," *J. Abn. Psychol.*, 1914, viii, 217–264.
(19) Hunt, E. P. A., and Smith, P., *The Teacher's Guide to Intelligence and Other Psychological Testing*, 1st ed. London : Evans, 1935. pp. 94.
(20) Jones, H. E., and Conrad, H. S., " The growth and decline of intelligence," *Genet. Psychol. Monog.*, 1933, xiii, 233–298.
(21) Kent, G. H., " Suggestions for the next revision of the Binet-Simon scale," *Psychol. Rec.*, 1937, i, 407–434.
(22) Kent, G. H., " Written tests for the clinic," *J. Genet. Psychol.*, 1934, xliv, 49–68.
(23) Kerr, M., " Children's drawings of houses," *Brit. J. Psychol.* (*Med. Sect.*), 1937, xvi, 206–218.
(24) Knight, R., *Intelligence and Intelligence Tests*, 1st ed. London : Methuen, 1933. pp. 98.
(25) Leiter, R. G., " The Leiter International Performance Scale," *Univ. Hawaii Bull.*, 1936, xv, 1–42.
(26) Loutit, C. M., *Clinical Psychology*, 1st ed. New York : Harpers, 1936. pp. 695.
(27) Macrae, A., *Talents and Temperaments*, 1st ed. London : Nisbet, 1932. pp. 210.
(28) Malamud, W., and Palmer, E. M., " Intellectual deterioration in the psychoses," *Arch. Neur. Psychiatr.*, 1938, xxxix, 68–81.
(29) Miles, W. R., " Age and human ability," *Psychol. Rev.*, 1933, xl, 99–123.
(30) Nemzek, C. C., " The constancy of the I.Q.," *Psychol. Bull.*, 1933, xxx, 143–168.
(31) Newman, H. H., Freeman, F. N., and Holzinger, K. J., *Twins : A Study of Heredity and Environment*, 1st ed. University of Chicago Press, 1937. pp. 369.
(32) Oakley, C. A., and Macrae, A., *Handbook of Vocational Guidance*, 1st ed. University of London Press, 1936. pp. 337.
(33) Penrose, L. S., and Raven, J. C., " A new series of perceptual tests : preliminary communication," *Brit. J. Psychol.* (*Med. Sect.*), 1936, xvi, 97–104.

(34) Pintner, R., and Paterson, R., *A Scale of Performance Tests*, 1st ed. New York : Appleton, 1917. pp. 218.
(35) Schwesinger, G. C., *Heredity and Environment*, 1st ed. London : Macmillan, 1934. pp. 484.
(36) Simmins, C., " Deterioration of ' G ' in psychotic patients," *J. Ment. Sci.*, 1933, lxxix, 704–734.
(37) Simon, T., " Faut-il exprimer en années d'age le niveau mental d'un adulte ? " *Ann. Méd.-Psychol.*, 1936, xciv, 477–480.
(38) Sorensen, H., " Adult ages as a factor in learning," *J. Educ. Psychol.*, 1930, xxi, 451–459.
(39) Spearman, C. E., *The Abilities of Man*, 2nd ed. London : Macmillan, 1932. pp. 415.
(40) Spearman, C. E., *A Measure of Intelligence*, 2nd ed. London : Methuen, 1931. pp. 20.
(41) Spearman, C. E., " ' General intelligence ' objectively determined and measured," *Amer. J. Psychol.*, 1904, xv, 201–293.
(42) Stutsman, R., *Mental Measurement of Pre-School Children*, 1st ed. New York : World Book Co., 1931. pp. 368.
(43) Terman, L. M., *The Measurement of Intelligence*, 5th ed. London : Harrap, 1925. pp. 362.
(44) Terman, L. M., and Merrill, M. A., *Measuring Intelligence*, 1st ed. London : Harrap, 1937. pp. 461.
(45) Thomson, G. H., " On complete families of correlation coefficients and their tendency to zero tetrad-differences : including a statement of the sampling theory of abilities," *Brit. J. Psychol.*, 1935, xxvi, 63–92.
(46) Thorndike, E. L., *The Measurement of Intelligence*, 1st ed. New York : Columbia Univ. Teach. Coll. Contri. Educ. 1927. pp. 616.
(47) Vernon, P. E., " A study of the norms and the validity of certain mental tests at a child guidance clinic," *Brit. J. Educ. Psychol.*, 1937, vii, 72–88, 115–137.
(48) Wittman, P., " The Babcock deterioration tests in State Hospital practice," *J. Abn. Soc. Psychol.*, 1933, xxviii, 70–83.
(49) Yoakum, C. S., and Yerkes, R. M., *Mental Tests in the American Army*, 1st ed. London : Sidgwick and Jackson, 1920. pp. 303.
(50) Yule, G. U., and Kendall, M. G., *An Introduction to the Theory of Statistics*, 11th ed. London : Griffin, 1937. pp. 570.

SUGGESTIONS FOR GENERAL READING

Arthur (2), Burt (5, 6), Cattell (8), Gesell (15), Hamley (17), Knight (24), Pintner and Paterson (34), Stutsman (42), Terman (43), Terman and Merrill (44).

Chapter VIII

THE APPLICATION OF INTELLIGENCE TESTS IN THE ANTHROPOLOGICAL FIELD

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I. THE PROBLEM

The application of intelligence tests to non-European and primitive races was attempted very early in the history of intelligence testing.[1] With the help of the new technique it was hoped to arrive ultimately at a universal scale of innate human faculties, on which the different racial and ethnic groups could each be assigned a more or less definite place. Yet intelligence testing in this field has met with but problematic success. The results are erratic and contradictory. One investigator has found marked differences in intelligence between racial groups which, according to another tester, possess the same intellectual capacity.

Rowe, using the Binet-Simon test,[2] found that 94 per cent of American Indian children were mentally below the 'whites'.[3] On R. S. Woodworth's scale, Indian children scored lower than white, but slightly higher than negro children[4]:—

	Intelligence Quotient
Children of American parents	100
Children of Indian parents	86
Children of negro parents	83

On T. R. Garth's scale the relative position of Indians and negroes is reversed: the mean I.Q. of northern negroes is 85, of southern

[1] In 1904 Woodworth applied performance tests to various primitive tribes assembled at the St. Louis Exposition; see (21).

[2] For a description of many of the tests referred to in this chapter, and explanations of technical terms, see Chapter VII.

[3] See Garth (7), p. 75.

[4] (20), p. 78.

negroes 75, and of Indians 68·6 in the Binet and 71·6 in performance tests.[1] Finally, O. Klineberg, testing whites and Indians with the Pintner and Paterson Performance Scale, found that the results of the two groups were " strikingly alike ".[2]

' Racial ' intelligence clearly changes with the social and educational conditions under which a given group lives. In the American Army Beta tests, adapted for illiterates, the negroes from the north score better than negroes from the south, and even better than the ' poor whites ' from Alabama (in the tests for literates, however, this last relation is reversed)[3]:—

	Number of cases	*Per cent below C*	*Per cent C*	*Per Cent above C*
White draft generally	26,012	58	41	1
New York Negroes	440	72	28	0
Alabama Whites	384	80	20	0
Alabama Negroes	1,043	97	3	0·1

Performance tests carried out among New York Negroes show a close correspondence between success in the test and length of sojourn in New York, but no correspondence with " smaller amount of (apparent) negro blood, i.e. negroid appearance ".[4]

Test results obtained from primitive races in their aboriginal habitat are still more difficult to harmonize. Most tests seem to contradict completely the knowledge which the anthropologist has gained of their cultural achievements and their intellectual capacity. In tests standardized on European children, natives belonging to groups whose social efficiency and adjustment to environment cannot be doubted obtain a score so low as to seem absurd. Again, in a comparative study of the intelligence of Australian and African natives, it is found that the Central Australians, culturally the most primitive and backward race in the world, score better than the African Bantu tribes, with their much more highly developed civilization, in spite of the fact that the test used is said to attack specifically ' planning capacity ' and ' social foresight '[5]:—

[1] (7), pp. 72 and 83.
[2] (8), p. 43.
[3] See (10), pp. 76–8. In these tests the individuals examined were assigned grades, on the basis of their scores, from *A* to *E*; *C* represents the middle grade.
[4] (8), p. 56.
[5] See (15), p. 257. The test referred to is the Maze Test. For the interpretation of its social significance, see (16), p. 359.

Tribe	*Locality*	*No. of cases*	*Schooling*	*Average Mental Age*
Arunta	Central Australia	25	Mission	12·08
Batonga	N. Transvaal	29	Mission	11·72
Wakaranga	S. Rhodesia	32	Mission	11·57
Ndau	S. Rhodesia	43	Mission	11·41
Amaxosa	Cape Province	25		10·78
Karadjeri	N. W. Australia	24		10·52
Keidja-Nyul	N. W. Australia	65	Mission	10·47
Shangaans	Portuguese E. Africa	25		9·3
Mchopi	Portuguese E. Africa	28		8·34
Bushmen	Kalahari Desert	25		7·56

The apparent inconsistency of the test results may be partly due to their very unequal statistical significance. Disregard of the factor of selection (e.g. in the Army Beta and Porteus tests), and the smallness of the groups examined (in the Porteus tests), render the interpretation of some of the results uncertain.

It seems probable, however, that a still more important source of error arises from the fundamental methodological difficulty of constructing tests which will do justice to differences in culture and upbringing, a difficulty inherent in all comparative studies of intelligence. Indeed, it is a question whether tests can ever be constructed which will reveal the psychological mechanism of intelligence as such, and eliminate the influence of cultural and educational opportunity. Anthropologists, with their emphasis on culture as the all-important determinant of human behaviour, are inclined to deny this possibility,[1] and the vague and cautious formulations of some psychologists betray their sense of the insecurity of the position.[2] The following discussion is therefore concerned with difficulties and problems, rather than with achievements. It will, at most, be possible to suggest a procedure which represents a compromise, but not a clear or complete solution.

II. GENERAL CONSIDERATIONS

As an introduction to specific questions of method and technique, certain general points involved in any comparative study of ' racial ' psychology must be considered.

First, the psychologist who uses mental tests in the field should

[1] See Kroeber (10), pp. 75–86, and Tozzer (19), pp. 62–80.
[2] See Woodworth (20), p. 78, and Murphy and Murphy (13), p. 113.

never attempt to maintain the distinction which has sometimes been drawn between innate and acquired characteristics. The question of racial differences (using the term 'racial' very broadly) can no longer be approached with these simple alternatives in mind. Instead, enquiries must be oriented towards ascertaining the range of variation permitted by the two factors concerned.[1] Although the evidence tends to show that the range of variation permitted by heredity is wider than the range of variation resulting from environment,[2] it is not yet possible to define the depth of psychological organization to which environmental influences may penetrate. But even if our testing technique could counter the more conspicuous and tangible factors in the environment, such as specialized training and educational opportunity, it would still have failed to isolate the substratum of race and heredity. Other 'acquired characteristics', the differences in mental organization due to early influences and the culture and general social adjustment of the group, would remain.

This consideration leads to our second point, the problem of the social significance of the 'pure intelligence' which it is sought to test. Intelligence tests represent a useful method for summarizing certain standards of ability which, in our society, answer standardized needs, and high scores may serve as qualifications for standardized positions. But even in our social system the significance of high scores is not wholly clear. In civilizations the standards of which differ widely from our own, the 'intelligent' individual's place in society is far less easy to establish. Social success in other cultures, for example, may depend much more on temperamental type. The adaptation of our method to differences of culture is thus incomplete without information regarding the extent to which the intellectual endowment measured by our tests is socially appreciated.

In certain areas, contact with standardized culture of the European type is rapidly affecting primitive peoples, and making demands upon native society. Schools require teachers and pupils, workshops and offices seek labourers, apprentices, and clerks, and intelligence tests are beginning to be employed for the selection of suitable employees

[1] Murphy and Murphy (13), p. 97.

[2] This has been convincingly demonstrated by studies of the intelligence of persons of mixed blood; see Garth (7), pp. 40–1, and Klineberg (8), p. 56, and (9), pp. 191–3.

(6). In this case, however, the comparison is between individuals within the same group ; moreover, the ' intelligence ' compared is chiefly a capacity for, or adaptability to, a type of work which is usually quite alien to their native culture. Such a use of tests is justifiable on grounds of expediency, provided that the limited significance of the results is fully recognized.[1]

Indeed our third caveat concerns the danger of test results being used as a social or political weapon, since they may be interpreted as demonstrating the constitutional inferiority and uneducability of racial or ethnic groups. A tendency to do so is already perceptible, and it is therefore important to formulate any conclusions from these tests among primitive peoples so unambiguously that they will not appear to lend a scientific backing to popular prejudices.

The methods and techniques involved in adapting intelligence tests to non-European or primitive groups will be considered in relation to two problems : that of constructing adequate test material, and that of evaluating the test results obtained.

III. TEST MATERIAL

The primary requirement for test material which is to be used for comparing different cultural groups is clearly that the ease or difficulty of the tasks should be unaffected by differences in cultural background.

A. PERFORMANCE TESTS

The more obvious cultural differences such as language, and the store of knowledge and experience specific to cultural groups, can be eliminated by giving non-verbal, ' performance ' tests, which

[1] Porteus (15), commenting on the value of his Maze Test as an index of adaptability " to our kind of society ", maintains that, in view of the established fact of culture contact and of the native's own desire to acquire European civilization, " the question as to who is the most intelligent *by native standards* is beside the mark " (p. 258). This statement would be perfectly legitimate were it not for the fact that it is made in a book which attempts to define, on the basis of test results such as these, ' primitive intelligence ' in general.

presuppose a minimum of specialized knowledge and experience.[1] Of such tests, which are claimed to be suitable for universal application, the most widely used are the Porteus Maze, the Goddard Formboard, the Knox Cubes, and the Leiter International Performance Scale.[2]

It is doubtful, however, whether the claim to universal applicability which is made for performance tests can be sustained. The results which S. D. Porteus derived from the use of the Maze test have already been referred to. Moreover it was not found possible to give the Leiter scale to one tribal group, the Bushmen.[3] In any case, there almost certainly exist "more subtle background differences" which affect the native's reactions to these tests also, independent though they appear to be of cultural and educational influences.[4] An analysis of the principles on which performance tests are based may clarify the position.

Intelligence consists in the capacity for solving the problems of life,[5] and the essence of intelligence tests of any type therefore lies in presenting typical problems, the solution of which implies a recognition of abstract relations in the given concrete perceptual (visual or auditory) material. Thus the difficulties involved in the test task are, first, those inherent in the operation itself, which may deal with simpler or more complex relations, and secondly, those due to a lack of experience of the existence and observability of the relations concerned. The validity of intelligence test results depends on the second type of difficulty being equal for every subject, and when inter-group comparisons are attempted, this means that the test material must be emptied of all immediate reference to the background of experience and knowledge.

In eliminating one source of error, however, we introduce another. 'Purified' test material is so radically removed from

[1] A technical difficulty encountered by the field investigator may be mentioned here, namely, the difficulty of ascertaining the exact age of his subjects, and accordingly of arriving at a reliable age-standardization of his tests. By indirect methods of enquiry, however, e.g. measuring age by reference to certain generally known and datable events, the age can be discovered in most cases.

[2] See Squires (18), Blackwood (3), and Leiter (11).

[3] Porteus (15), p. 306.

[4] Woodworth (20), pp. 78–9.

[5] Allport (1), p. 104.

all the facts of the subject's normal cultural life that the test presents him with a completely new and unfamiliar situation. The intellectual operation required by the test may closely resemble those which he is accustomed to carry out in pursuing his daily activities, but the feat of abstracting the underlying principle and transferring it to a quite different context, that of the test material, is one the difficulty of which varies from group to group.

In our own society, for example, where children normally play with toys, bricks, coloured pegs, and geometrical forms, the technical equipment of performance tests includes few, if any, unfamiliar features. Among primitive peoples, on the other hand, the necessary abstraction has sometimes proved impossible, even when the test material had been adapted to native cultural standards to a considerable degree. F. C. Bartlett quotes an instance where East African natives failed completely to arrange coloured pegs in an alternating series in the test, although they planted trees according to the same principle, in the course of their ordinary work, with the utmost ease.[1] M. Mead tried to get Samoan children to interpret pictures of familiar scenes, but found them unable to evolve an attitude of theoretical, explanatory interest. Instead they adopted a purely æsthetic point of view, referring in a " highly stylized form of comment " only to the beauty of the scenes.[2] Again, when testing young Yoruba boys in Northern Nigeria I discovered that they could not identify outline drawings on paper of a man, or even of such common objects as a hut, a crocodile, or a pot, although exactly the same outline figures were at once identified and described when they appeared in carvings or on native leatherwork, i.e. in their familiar, established cultural context.

It is true that, if we define intelligence as a capacity for solving problems, abstraction and the application of principles to unfamiliar contexts constitutes one of its essential elements. But the acquisition of a facility for carrying out these operations, for handling and solving problems on ' models ', so to speak, can itself be a part of the cultural tradition. From their earliest days our own children play with toys and are taught the meaning of pictures and photographs, all of which constitute miniature representations of the objects

[1] (2), pp. 413–14.
[2] (12), p. 291.

and situations encountered in real life. In cultures where such play is absent, the mental 'orientation' towards models cannot be expected to be the same.[1]

These difficulties can, I suggest, be circumvented in two ways:

(1) Tests should be constructed on the basis of a thorough preliminary anthropological study of the group. Cultural activities which involve the production and handling of material suitable for use in tests, e.g. children's games and toys, ornamental designs, or handicraft techniques, would of course receive special attention.[2] It must not be forgotten, however, that in primitive cultures certain designs or techniques may be so rigidly standardized, and impregnated with so many symbolic meanings, that they cannot be treated with the freedom that their application for intelligence test purposes demands.[3]

(2) The subjects should undergo a brief period of preliminary 'training' before the tests proper are given to them, as my own experience has shown. This 'training' consists merely in familiarizing the subjects with the test situation and with the principles according to which material similar to the test material should be handled. Our own school education provides an analogous, though much longer, training, and intelligence tests in our own cultures in fact largely test the individual's relative ability to profit from a preceding period of common training.

B. TEST MATERIAL AND CULTURAL DIFFERENCES

Apart from environment, the 'height' of a civilization, or the degree to which a culture is affected by modern contact, the effectiveness of test material or test situations may depend on less tangible, 'qualitative' factors in culture. The fact has often been ignored that speed is such a factor, thus rendering tests scored partly on the basis of speed quite inapplicable to many primitive groups. The varying emphasis on either speed or

[1] The possibility should be kept in mind that urban and rural groups within one culture may also differ in this respect.

[2] Among Porteus' South African subjects there was one tribal group which already knew a 'labyrinth game', and scored better in the Maze Test than the other groups, which knew no such game; see (15), p. 256.

[3] This would explain the failure of my West African subjects to interpret outline drawings, as described above.

competition in a society, the 'tempo of life' characteristic of a given cultural pattern, will determine the ability of the people to adjust themselves to the demands of the test task. Klineberg, in testing Indians and Whites, found the relative slowness of the Indians the only real difference between the two groups. He points out that the Indians' attitude towards speed in the tests only reflects their general mode of life: "they have no need for speed" on their Reservations.[1]

Another type of 'qualitative' factor was revealed by the application of a test to members of two West African tribes.[2] Patterns cut out in cardboard had to be matched according to form or colour, the test leaving the method of arrangement free. Two groups of 70 children each, aged between 6 and 11, were given the test.[3] Only 4·4 per cent failed; 6·7 per cent worked very slowly and hesitatingly, finding it difficult, and these were mostly children who kept on changing from one method of arrangement to the other. The rest worked very quickly, deciding almost at once, without hesitation or questioning, by which method they were going to proceed.

In one cultural group, however, 34·2 per cent followed colour and 59·2 per cent form, while in the other group 73 per cent followed colour and 9·5 per cent form.[4] This seems to indicate clearly a fundamental difference in 'orientation' towards the test data in the two groups. If a test with a narrower scope had been applied,[5] requiring, say, arrangement according to form, the group whose members tend to arrange their material according to colour would probably obtain scores inferior to the group whose members, in a more elastic type of test, choose arrangement according to form. Yet the difference in question does not signify a lower degree of intelligence, but rather intelligence of a different 'orientation' or type.

[1] Klineberg (8), pp. 34, 35, and 43.

[2] This test, and the experiments described in Section C, were carried out by the writer in 1936, with subjects belonging to the Nupe and Yoruba tribes of Northern Nigeria.

[3] The test was not standardized.

[4] A comparable situation exists where auditory and visual memory types are unequally distributed in different cultural groups; see Garth (7), and Porteus (16), p. 396.

[5] For example, Matching Forms, Test No. 8 (corresponding to year XI in mental age) of the Leiter International Performance Scale.

Since a psychological difference in attitude towards selected perceptual data cannot be deduced directly from anthropological findings,[1] a supplementary inquiry must precede the final choice of test material. Psychological experiments or tests of the kind just described, which use material closely related to ordinary test material and allow for alternative responses, would furnish the desired information regarding the mental 'orientation' characteristic of the groups concerned.

C. VERBAL TESTS

It has been shown that there are various disadvantages in applying performance tests, of the type hitherto standardized, to primitive groups. Moreover, the significance of performance tests is undoubtedly more limited than that of verbal tests, and their attack on the factors summarized as 'intelligence' is less penetrating.[2] This is especially true if adults as well as children are to be tested.

The methodological difficulty involved in the 'abstraction' of principles and their application to unfamiliar material, mentioned above in connection with performance tests, is less pronounced in verbal tests, since language is everywhere the instrument *par excellence* for handling abstract problems in precisely this way.[3]

Nevertheless the use of a verbal test does not eliminate the need for extensive preliminary investigation. Not only must the anthropologist, as before, survey the field, but any 'material' which it is proposed to adopt for the test must be carefully considered from the linguistic point of view. Verbal tests cannot be constructed by simple translation from a European into a native language. The problem is rather one of reconstructing the data in the new linguistic medium, with its characteristic grammatical categories

[1] It is not intended to suggest by this statement that psychological differences are unrelated to culture, but merely that the correlation between the two may be too obscure or complex to be immediately detected by observation. Thus Klineberg's *prima facie* correlation of the Indians' slowness in the test with their general conditions of life might not, on further investigation, be found to provide a complete solution to the problem involved.

[2] See Cattell (4), p. 3.

[3] There are, however, exceptions. Some linguistic forms are so closely bound up with a concrete situation, such as a ritual context, that abstraction from the original setting becomes impossible.

and semantic organization, in such a manner that questions and answers will admit of unambiguous interpretation.

Guided by these considerations, I conducted a number of experiments on thought processes and the psychology of language among West African Negroes, employing material closely akin to that of the verbal intelligence tests in current use. The experiments were carried out in the vernacular and were based on its linguistic categories. In one experiment the interpretation of certain words—the names of organs of the human body, various objects, and abstract concepts—was investigated. From this it was evident that a series of increasing difficulty could be obtained merely by using words of varying degrees of (*a*) familiarity, and (*b*) abstractness.

Another experiment tested the ability to supply analogies. The subjects were asked to give as many word-pairs as possible analogous to three given word-pairs. A graded series was evolved, (*a*) by proceeding from word-pairs in which the linguistic symbolism and the logical relation were conspicuously concordant, a simple linguistic process (e.g. the addition of a prefix) producing the desired analogy, to word-pairs which showed no such correspondence between linguistic structure and logical connection; and (*b*) by proceeding from what appeared to be simpler and more obvious categories (e.g. opposites, cause-effect) to more complicated categories (e.g. whole-part, means-purpose).[1]

D. THE QUALITATIVE FACTOR IN INTELLIGENCE TESTS

Verbal tests, involving as they do general logical categories and principles, may thus seem to constitute widely applicable test material. Again, however, there are limitations. The test results, expressed in terms of success and failure, based on the number of 'right' and 'wrong' solutions, do not possess the same significance in every case. The same gross achievement may be due to very different specific factors. There remain unanalysed the qualitative differences in psychological orientation, in the way in which the subjects set about their task, which spring from differences in type and personality.

[1] Tests of this kind should finally refute the theories of Lévy-Bruhl and his school concerning the 'pre-logical' and 'infantile' nature of the 'primitive mind', theories which have found a following even among men with the practical experience of long educational work among native groups; see e.g. Dougall (5).

The results of the Interpretation Test described in Section C provide a convincing illustration. The test was given to members of two cultural groups. From the point of view of conventional scoring the groups showed no marked divergence except in speed. But the ways in which the two sets of subjects approached the test problem differed fundamentally. In one group interpretation proceeded by way of exemplification and a description of concrete situations in which the test concept normally appeared (e.g. a description of the process of manufacture of the object referred to in the test word). This type of interpretation was, as a rule, drawn out, verbose, and full of minor details. The members of the other group responded invariably with a short interpretation which went straight to the point, giving the abstract meaning of the concept, or indicating the purpose of the object to which the test word referred. We have here once more differences in orientation which do not lend themselves to being measured on a common scale of intellectual efficiency.[1]

The problem of the ' qualitative ' factor in intellectual operations applies, of course, to ordinary intelligence tests used among Europeans and others as well as to special tests used among primitive groups. But a neglect of the qualitative factor in ordinary intelligence testing is justified by the tests' primarily practical significance, their concern with the adaptability of individuals to the standardized vocational and educational demands of our civilization. Where intelligence tests are applied to primitive peoples with the same practical point of view (see Section II), neglect of the qualitative factor is equally justified. If, however, native intelligence is being examined for the purpose of making comparisons between groups, simple grading according to success and failure is of little significance, for the groups compared may evaluate ' intelligence ', or types of intelligence, according to different scales of value. Instead we must admit the existence of different types of intelligence, and of the varied roles which different societies assign to them ; we must also take them into account in constructing our tests of intelligence. Adjusting intelligence tests to this new *Problemstellung* means

[1] As before, it may not be easy to derive these psychological characteristics directly from the cultural data, but I have described elsewhere the correlations that appeared to be indicated by the results of memory experiments carried out with the same groups (14).

giving them a new and very much wider task, involving problems of evaluation which will be elaborated in the following section.

IV. THE EVALUATION OF TEST RESULTS

Test results from primitive or non-European races can be evaluated from four different points of view:

(1) Intra-group comparison of intelligence for practical purposes, i.e. in accordance with the standards of 'western' civilization.

(2) Inter-group comparison of intelligence for practical purposes.

(3) Intra-group comparison of intelligence in accordance with native cultural standards, for scientific purposes.

(4) Inter-group comparison for scientific purposes.

The foregoing analysis has delimited the scope of (1) and (2), and suggested procedures for carrying out (3).

With regard to (4), however, it is not so easy to reach a definite conclusion. Attention has been drawn to the existence of varied and deep-seated cultural and psychological differences between groups, which might well be thought to exclude the possibility of scientific inter-group comparisons altogether. But this would amount to the negation of an important principle of intelligence-testing in general, envisaging, as it does, a uniform system of standardization and evaluation.[1]

A method proposed by G. Schwesinger consists in a combination of multiple and uniform standardization, applicable to groups differing not too widely in cultural background.[2] Each test would be standardized for one group, but would contain a number of elements common to all the groups. The tests could then be exchanged, and by comparing the success with which the different groups dealt with the other groups' tests their relative superiority or inferiority would be established.

The degree of cultural similarity necessary to qualify the different groups for this combined standardization might, however, be difficult to define. Moreover, what may appear to be minor differences in the cultural background may in reality have a far-

[1] A practical question involved is the size of the cultural or linguistic group to which one system of tests could be applied. The population of primitive groups varies from a few hundred individuals, as on an island in the Pacific, to millions, as in Sierra Leone or Nigeria.

[2] (17), pp. 42–3.

reaching influence from the psychological point of view. Groups possessing a facility for dealing with abstract principles (see Section III, A), that is, groups with a more complex and flexible form of culture, would presumably always be judged superior.[1]

Bartlett [2] has recently suggested that attempts to arrive at universal standardization should be postponed. Investigations should be undertaken in many different areas, but in each case special appropriate test material should be evolved, a comprehensive co-ordination of the results of these efforts being left to future research, when sufficient material has accumulated. Within each group intelligence tests could be used as instruments of quantitative measurement, but to step beyond the group would be, he holds, to go beyond the present legitimate scope of intelligence testing.

This procedure would, in fact, alter the whole meaning of intelligence tests. From instruments of universal, quantitative measurement they would become instruments of differential, qualitative analysis. For in their specific adjustment to cultural groups the tests would already reflect specific qualitative factors of culture, and culturally determined forms of intelligence. We should not so much be examining and measuring degrees of intelligence, as analysing different *types* and *qualities* of intelligence.

It is only one step from this implicit admission to a full recognition of the factor of qualitative differences in intellectual organization, and thus, perhaps, to a reinstatement of the inter-group comparison of intelligence on a new basis. The convinced intelligence tester may object to the manner of application of the test method to primitive peoples which is proposed in this chapter. The anthropologist, who seeks to analyse all the influences exerted by culture upon human thought and action, will, I believe, welcome it.

REFERENCES

(1) Allport, F. H., *Social Psychology*. Cambridge, Mass.: Riverside Press, 1924. pp. 453.

(2) Bartlett, Sir F., "Psychological methods and anthropological problems," *Africa*, 1937, x, 4, 401–420.

[1] Klineberg (9) also points out that the suggested interpretation would only be justified if we could be sure that the exchanged tests were equally closely or distantly related to the culture of each group compared, a fact which we have no means of ascertaining (p. 161).

[2] (2), p. 414.

(3) Blackwood, B., " Study of mental testing in relation to anthropology," *Mental Measurements Monographs*, 1927, No. 4. pp. 120.
(4) Cattell, R. B., *A Guide to Mental Testing*. University of London Press, 1936. pp. 312.
(5) Dougall, J. W. C., " Characteristics of African thought," *Africa*, 1932, v, 3, 249–265.
(6) Fick, M. L., " Educability of native children of the Transvaal compared with other groups on the basis of intelligence tests," *Education Fellowship Conference*, 1934.
(7) Garth, T. R., *Race Psychology*. New York McGraw-Hill, 1931. pp. 260.
(8) Klineberg, O., " An experimental study of speed and other factors in ' racial ' differences," *Arch. Psychol.*, 1928, xv, No. 93. pp. 109.
(9) Klineberg, O., *Race Differences*, 3rd ed. New York : Harper, 1935. pp. 367.
(10) Kroeber, A. L., *Anthropology*. London : Harrap, 1923. pp. 523.
(11) Leiter, R. G., " The Leiter International Performance Scale," *Univ. Hawaii Bull.*, 1936, xv, 1–42.
(12) Mead, M., *Coming of Age in Samoa*. London : Jonathan Cape, 1929. pp. 297.
(13) Murphy, G., and Murphy, L. B., *Experimental Social Psychology*. New York : Harper, 1931. pp. 709.
(14) Nadel, S. F., " A field experiment in racial psychology," *Brit. J. Psychol.*, 1937, xxviii, 2, 195–211.
(15) Porteus, S. D., *Primitive Intelligence and Environment*. New York : Macmillan, 1937. pp. 325.
(16) Porteus, S. D., *The Psychology of a Primitive People*. London : Arnold, 1931. pp. 438.
(17) Schwesinger, G., *Heredity and Environment*. New York : Macmillan, 1933. pp. 484.
(18) Squires, P. C., *A Universal Scale of Individual Performance Tests*. Princeton University Press, 1926. pp. 198.
(19) Tozzer, A. M., *Social Origins and Social Continuities*. New York : Macmillan, 1926. pp. 286.
(20) Woodworth, R. S., *Psychology*, 10th ed. London : Methuen, 1935. pp. 546.
(21) Woodworth, R. S., " Racial differences in mental traits," *Science*, 1910, xxxi, 171–186.

CHAPTER IX

QUESTIONNAIRES, ATTITUDE TESTS AND RATING SCALES

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I. INTRODUCTION

A. QUESTIONNAIRES AND INTERVIEW METHODS

Investigators of social-psychological problems among literate peoples make considerable use of written, as distinct from oral, information. The questionnaire may be regarded as a type of interview which is conducted in writing. It is less efficacious than the interview in that personal contact is lacking between the investigator and the subjects or individuals who are being studied, so that there is much more likelihood of misinterpretation by both parties, as we shall see below.[1] On the other hand this same feature may reduce the influence of the investigator's own attitudes upon the subjects (cf. Chapter XV), so that the questionnaire method may claim to be somewhat more objective. Again, although matters of personal concern to the subjects are generally revealed more readily in an interview than in writing, yet the answers to a questionnaire may be completely anonymous, and therefore sometimes more candid than oral responses. Perhaps the chief merit of the methods with which this chapter deals is their easy applicability to large numbers of subjects, and the readiness with which generalizations may be drawn from this large quantity of material.

[1] This was realized nearly a hundred years ago, as the following quotation shows : " It is impossible to expect accuracy in returns obtained by circulars, various constructions being put upon the same questions by different individuals, who consequently classify their replies upon various principles." *J. Statist. Soc. Lond.*, 1839, ii, p. 303.

B. CLASSIFICATION OF WRITTEN VERBAL METHODS

The scope of this chapter includes, however, other types of written verbal data besides ordinary questionnaire returns. The following classification summarizes the methods which we shall attempt to evaluate:

1. *Uncontrolled writings*

(*a*) Personal records: diaries, correspondence, autobiographies, case-studies, etc.

(*b*) Essays and other literary productions

2. *Questionnaires providing unscaled data*

(*a*) 'Open' form (the subject supplies his own responses)

(*b*) 'Closed' form (the subject chooses from a set of provided responses)

3. *Questionnaires or verbal tests and ratings for obtaining scaled data*[1]

(*a*) Surveys of attitude towards a set of issues among a group of subjects

(*b*) Ratings of other subjects with respect to their personality traits

(*c*) Self-rating tests of individual attitudes, interests, and personality traits

II. PERSONAL RECORDS, ESSAYS AND OTHER LITERARY PRODUCTIONS

A. PERSONAL RECORDS

Diaries, correspondence, and autobiographies constitute important sources of material for historians. Similar contemporary documents may be useful to psychologists, since they throw light both upon the personality development of the writers, and upon the social groups and institutions which have influenced that development. Patients at mental hospitals are often instructed on admission to write their own life-histories; these are of considerable assistance to the psychiatrist in making his diagnoses.

A competent case-study written by a psychiatrist, psychologist, or social worker should convey a fairly complete picture of

[1] I.e. quantitative measures of psychological variables.

the individual in relation to his social environment.[1] Numerous examples might be cited: L. Cole's book on adolescence (15) is one in which both case-studies and extracts from diaries reveal the inner psychological changes of adolescence, together with characteristics of the culture to which these adolescents are in process of adjustment. C. R. Shaw's *The Jack-Roller* (55), a juvenile delinquent's autobiography, is an outstanding social document. Shaw stresses the point that this record is full of prejudices, rationalizations and the like. It is not a mere account of facts, though facts are available against which the record may be checked. But he agrees with W. I. Thomas and F. Znaniecki (62) that only through studying the (often biased) reactions of individuals towards their social environment is it possible properly to understand this environment.

Another interesting type of written material consists of newspaper correspondence, the fan mail amassed by actors, and the like. The volume of protest received and (in part) published at the time of the Italian invasion of Abyssinia presumably bore some relation to the state of public feeling. Many film stars and radio performers certainly regard their mail as significant (cf. Chapter I). We know, however, of no scientific studies of the reliability or validity of such material, and therefore cannot attempt to deal further with it here.

B. ESSAYS AND OTHER LITERARY PRODUCTIONS

Non-autobiographical writings may also possess sociological and psychological value. Indeed spontaneous creative work is often more significant than personal records in that it is less likely to be self-conscious. Medical psychologists assert that its style and content are more direct expressions of the deeper personality trends of the writers. E. Kretschmer (36) has claimed that temperamental type, which he believes to be correlated with bodily physique, is reflected in a writer's productions. Realists, humorists, and materialistic scientists tend to belong to the 'cyclothyme-pyknic' type; romantics, idealist philosophers, and metaphysicians to the 'schizothyme-leptosome' type (cf. Chapter X). William James's 'tough- and tender-minded', and Nietschze's 'Dionysiac and Apollonian' types might also be cited. Probably artistic style

[1] For general principles of case-study writing, cf. G. W. Allport (5) and Dollard (19); also Chapter XV.

depends as much on cultural movements, or *Zeitgeist*, as on the temperament of the artist, however, as has been shown by the present writer (72) in a different field, namely that of musical composition. The expression of personality in handwriting also deserves mention here, though we cannot stop to examine it.[1]

Many investigations have been made of thematic writings (essays on a given theme) by children. For instance, T. W. B. Valentiner (71) presented the opening sentences of a story and had it completed by some four thousand children and adolescents, from nine to eighteen years old. From these productions he was able to make several generalizations regarding adolescent psychological development. C. D. Morgan and H. A. Murray (45) have developed a valuable psycho-diagnostic technique known as the Thematic Apperception Test. The subject is shown a series of pictures of everyday incidents, in each of which is portrayed a person of the same sex and about the same age as himself, and told to make up a story to fit each one. It is found that the subject tends to project himself into the person portrayed and to disclose his own sentiments and deeper complexes in his stories.

C. DIFFICULTIES IN USING UNCONTROLLED WRITTEN MATERIAL: ADVANTAGES OF THE QUESTIONNAIRE

The obvious defect of all this material is that deductions from it are largely dependent upon subjective interpretation by the investigator, and there is much evidence that different persons may interpret the same writings differently. That it *is* possible to base scientific generalizations upon a series of case-studies is shown by C. Bühler's (13) work on the course of human life; interesting general principles of psychological development and decline are here derived from some two hundred brief life-histories. Again, by means of a specialized technique called the 'matching method', the present writer (74) has been able to demonstrate that deductions about the personality of the artist from literary productions and other forms of artistic and graphological expression are at least partially valid.[2]

[1] For a survey of graphology and the psychology of handwriting, cf. Allport and Vernon (8).

[2] The best investigations in this field, which are outlined in the writer's article (74), are Arnheim (9), and F. H. Allport, Walker, and Lathers (3).

Nevertheless it must be admitted that when each subject writes a life-history or an essay in his own way, it is extremely difficult to make sound generalizations about a group or groups of subjects ; whereas if certain restrictions are applied, e.g. if subjects are given specific questions to answer in writing, their replies may be more readily classified.[1] Moreover quantitative results may be obtained by noting what proportion of subjects give certain answers, while the data obtained from personal records and thematic writings are almost wholly qualitative. The advantages and defects of both procedures may be illustrated by the method of voting at parliamentary elections. If every member of the electorate expressed his political views in his own words, it would hardly be possible to decide what was the will of the majority. Instead they are given a questionnaire, in the form of a ballot paper, on which all have to express their views under a few restricted categories, i.e. by voting for one of a set of representatives. The results are tabulated quantitatively, and are of immediate practical usefulness ; but they also tend greatly to oversimplify and to distort the actual state of public opinion.

III. QUESTIONNAIRES

A. TYPES OF QUESTIONNAIRE

Questionnaires range all the way from a list of general questions, in answer to which the subject writes descriptive essays (open type), to the ballot paper (closed type), which consists of one or more specific questions, each followed by a set of possible answers, the subject merely checking the one answer that he prefers. The former type is most used for intensive studies of a few cases, or for preliminary exploration of novel problems. Examples include

[1] Closely analogous problems occur in the marking of scholastic examination papers. Ordinary examinations consist of essays, the marking of which is known to be highly subjective and unreliable. Some educationists have therefore substituted so-called ' new-type tests ' of scholastic abilities. A new-type test contains a long series of brief questions, for each of which only one of a small number of answers is possible, so that marking becomes entirely objective. Cf. Ballard, P. B., *The New Examiner*, London : Hodder and Stoughton, 1923 ; also Hartog, P., and Rhodes, E. C., *An Examination of Examinations*, London : Macmillan, 1935.

O. A. Wheeler's inquiry (79) into adolescent religious and friendship experiences, and M. Phillips's (50) research on the development of social, political, and other sentiments. In an interesting study of the conditions that make for satisfaction or dissatisfaction in the teaching career, M. Birkinshaw (11) used a number of questions which were sufficiently definite for the responses of 583 teachers to be generalized and quantified; but she also obtained much supplementary qualitative information from those who expanded their responses.

In the 1935 Peace Ballot, informants were allowed to add qualifications to their answers, but the published results consisted only of the numbers of 'Yes's', 'No's', 'Doubtful's', and abstentions for each question. Though the latter type is more suited for mass surveys of highly specific issues, it is capable of extension to broad fields of inquiry, provided sufficient care is taken in drawing up definite questions and in compiling sets of answers which will cover most of the subjects' varied reactions to these questions. An excellent instance is D. Katz and F. H. Allport's (31) survey of the attitudes of some four thousand university students to university affairs, work, athletics, religion, race, and so forth.

B. CRITICISMS OF, AND PRECAUTIONS IN APPLYING, QUESTIONNAIRES

Not a few writers have condemned questionnaires in terms similar to the following:

"The questionnaire is not a scientific instrument; it is only a cheap, easy, and rapid method of obtaining information or non-information—one never knows which. No effort has been made to use it in the experimental sciences; it is worth hardly more in education, law, and the other social sciences, for words never mean precisely the same things to different persons, and there is no possible way of discounting poor analytic capacity or the practical joker." [1]

Such criticisms are only too often justified. Hence we will outline some of the main precautions, the observance of which will, we believe, make the questionnaire a serviceable, even if always a somewhat uncertain, instrument for research.[2]

[1] Flexner (20), p. 125.

[2] Fuller discussion of many of the following points may be found in Koos (35), Goodenough and Anderson (22), Symonds (59), and Vernon (75).

The investigator should, above all, realize that the subjects may be busy people, who cannot be expected to devote much time to answering the questions. He should therefore ask only for the minimum information essential for his research, scrutinize the questions so as to avoid duplication, and exclude requests for any data which might be obtained (often more reliably) from other sources, such as official statistics. A careful lay-out of the questions on the form distributed will give it a less forbidding appearance, and thus be likely to evoke better co-operation ; it may also prevent some of the questions from being overlooked, or read inaccurately.

The longer a questionnaire, i.e. the more labour it entails, and the more personal or intimate the information for which it asks, the more is it necessary to consider the subject's point of view. Unless the investigator is able to secure full co-operation and frankness, the answers will obviously be worth little. Either he should himself be acquainted with all the subjects, and persuade them to take part by interview or letter, or he should obtain the sponsorship of an institution or public body with a reputation which will favourably influence the subjects. A candid explanation of the aim of the inquiry, and an offer to supply subjects with results which will be of interest to them, may help (73), though in some cases it may be essential to conceal the aim so as to avoid prejudicing the responses. Almost always the investigator should guarantee that responses will be treated confidentially. Anonymous (unsigned) responses may be more frank, but as they may also be more careless or flippant, their value is dubious.

Educated persons, such as university graduates, students, and members of Workers' Educational Association classes, will usually co-operate more readily than the less educated. The latter tend to be suspicious, and incapable of comprehending the object of psychological or sociological inquiries. Even when willing to express their opinions or to describe their experiences orally, they are unused to formulating such data in writing. The same applies to schoolchildren. The wise investigator therefore seldom attempts to sample all strata of the population by questionnaire. If he insists on doing so, then extreme simplicity is essential. There would also appear to be national differences in readiness to answer ; investigations by means of questionnaires are, for instance, more popular and possibly more productive in America than in Britain.

C. PRECAUTIONS IN DRAWING UP QUESTIONNAIRES

Some study of the most suitable forms of question has already been made. Double-barrelled, or two-clause, questions should always be avoided. According to C. K. A. Wang (76), subjects will tend to reply primarily to one clause, or even fail completely to notice the other clause. When a closed type of questionnaire is applied to a very large number of persons, the order of the answers provided should be altered in a proportion of the blanks, since careless subjects tend to check the answer at the beginning rather than at the end of a line or column (31, 42). Some politicians have already realized the advantage of a surname beginning with 'A'.

If the inquiry deals with matters likely to be affected by social or moral prejudices (e.g. marital history or religious opinions), questions which suggest the conventionally acceptable alternative will arouse less resentment, and will usually be answered more candidly and rationally, than questions of precisely the same import which suggest the unacceptable alternative (52). Thus more people may be willing to answer 'No' to: "Have you always declared the whole of your income to the Inland Revenue Commissioners?" than will answer 'Yes' to: "Have you ever defrauded the Inland Revenue Commissioners by omitting to declare part of your income?" A set of questions all of the latter type is clearly undesirable. There are, however, advantages in including both types, since they 'touch off' different attitudes in the subjects. Many questionnaires contain different questions bearing on the same topic, so as to allow some check on the consistency of the responses.

As mentioned already, the investigator is less likely to influence responses by suggestion in a questionnaire than in an interview. Nevertheless experiments such as B. Muscio's (47) demonstrate that the wording of questions may suggest an answer which might not otherwise have occurred to the subjects. Especially is this likely to happen in the closed type, where answers to the questions are already provided. Thus an investigator who possessed a personal bias with regard to the issue he was studying might unwittingly suggest the responses which he would like to obtain, e.g. by wording them more attractively than certain others. We do not claim that this often occurs, but it is a possibility which deserves further study by experimental comparisons of the results of open and

closed types of questionnaires. Adoption of the closed type greatly increases the ease of tabulating and quantifying the results. But, particularly when sentiments or opinions are under investigation, it inevitably means that many of the subjects are forced to distort their spontaneous reactions to the questions in order to fit them into inappropriate categories. Whenever feasible, therefore, space should be left for, and notice taken of, additional comments or qualifying remarks.

A better representation of the various possible shades of response, and therefore a better questionnaire, will ensue if any or all of the three following steps are taken. First, the investigator should 'soak' himself in the field of his enquiry, and discuss it with many persons of divergent opinions, before he attempts to formulate his specific questions and answers (12). Secondly, the formulation should be undertaken by several persons, all familiar with the field, rather than by himself alone. Thirdly, the questionnaire should be tried out on a small group of persons, who may draw attention to ambiguities and difficulties, before it is distributed widely.

D. PRECAUTIONS IN THE INTERPRETATION OF RESULTS

These same steps should help to reduce the uncertainties, emphasized by A. Flexner,[1] affecting the significance and validity of questionnaire returns. Questions or closed answers written by the investigator easily convey some unforeseen meaning to the subjects, and a subject's open answer may as easily be misconstrued by the investigator. Hence the additional insight which can be gained by interviews with at least some of the subjects is highly desirable, albeit this insight is subjective and non-quantifiable. Such supplementary information is often more interesting and more significant than the quantitative findings.

We are referring here primarily to questionnaires which deal with attitudes and opinions, but even the replies to those which ask for factual data may be misleading, one well-known example being the ages that women atribute to themselves in census returns. Deliberate falsification can be obviated if sufficiently full co-operation is first established. But it has been shown, e.g. by F. C. Bartlett (10),

[1] Cf. passage cited in Section III, B, above.

how memories may be unwittingly distorted through the influence of sentiments and complexes. Striking evidence has been recently supplied by a study (44) of the physical and mental changes associated with the menstrual cycle. Many of the emotional and other effects which were believed, as a result of questionnaire replies, to accompany menstruation, failed to be substantiated when accurate daily records were kept over a long period.

Probably it is safest never to accept at their face value answers to questions which may have aroused strong emotions. Matters as intimate as the sex life have indeed been explored by questionnaire methods, for example by K. B. Davis (17) and G. V. Hamilton (25); but the validity of their conclusions is strongly contested by medical psychologists such as F. Alexander (1). Rather should the investigator admit the likelihood of such distortions, and follow them up by comparing his results with data obtained from other sources, e.g. from interviews or from direct observation. Even if he has only been able to collect records of people's ' public attitudes ' (53), and has failed to penetrate to their privately held opinions, his results may still be of social psychological interest. Instructive lessons in interpretation might be drawn from the 1935 Peace Ballot. Violent controversy occurred at the time as to the significance of its results. The predominantly pacifist attitude which it revealed among the eleven million odd participators does not seem, from subsequent events, to have possessed great permanence, and it is improbable that this attitude would have been predictive of actual behaviour, had war been declared then. Yet the returns must have been considered symptomatic of popular feeling, since they had a temporary, restraining influence on the Government's rearmament policy.

It may be pointed out here that several sources of error which are frequently held to invalidate questionnaires may legitimately be discounted when the investigator is interested only in the answers of large groups of subjects. Errors which vary in their direction among different individuals, such as carelessness and over-conscientiousness, reticence and exhibitionism, tend to cancel one another out in the mass. It is only those influences that affect the majority of the group in the same way, e.g. the bias towards social respectability, which are liable to mislead. If as many women over-estimated as under-estimated their ages, the averages obtained from the census returns would be reasonably accurate. Thus some

knowledge of the statistics of error (cf. Chapter VI) will assist the investigator in the proper interpretation of his findings.

E. THE REPRESENTATIVENESS OF THE RESULTS

Even more important is familiarity with the statistics of sampling. For the investigator is seldom concerned merely with the responses actually obtained; usually he desires to interpret them as representative of some wider population. Applying the principles given in Chapter VI, we see that such an extension is permissible only when the number of subjects is sufficiently large and their responses sufficiently uniform or consistent, and when the subjects do not differ from the wider population in any characteristic which is likely to affect their responses. The latter condition is often violated in questionnaire studies, because only a fraction of those approached complete and return their replies, and this fraction may not be typical. A very striking instance was provided by the 'straw polls' conducted in America in 1936 before the Presidential election (32, 16, 51). The *Literary Digest* sent out ten million ballot papers, and received 2,350,176 replies, but made no attempt to ensure the representativeness of the sampling. Probably a disproportionate number of replies were received from the business classes of the population. The resulting forecast of the election was incorrect, with an error of 20 per cent. In contrast, the periodical *Fortune* obtained returns from only 4,500 persons (less than 0·01 per cent of the electorate), but chose them according to scientific sampling principles, and predicted the actual election result with an error of only 1 per cent.

The technique of sampling is best illustrated by the weekly surveys of public opinion conducted in the United States by G. Gallup.[1] His methods were developed in the first place for purposes of market research, i.e. for finding out what goods were wanted by consumers in various parts of the country. Now, however, he takes some prominent issue of the moment—in home or foreign politics, economics or morals—and circulates a brief questionnaire

[1] Cf. Katz and Cantril (32). Similar surveys are conducted in this country by an offshoot, the British Institute of Public Opinion. Its results have been published for some time in the American press, but have only recently begun to appear in British papers, and we are unable to say how adequate is its sampling of the British population.

on the issue to some hundred thousand persons, of whom approximately thirty thousand send in replies. These persons are likely to be drawn mainly from the upper socio-economic strata of the population; hence he arranges in addition several thousand house-to-house interviews with members of the lower strata.[1] Each subject also supplies sufficient information about himself for the replies to be classified according to: (1) part of the country, (2) urban or rural district, (3) age, (4) sex, (5) political affiliation, (6) socio-economic status, the latter being determined mainly by the rent paid. Each set of replies is then appropriately weighted. For instance, supposing that the total population is one-third rural, two-thirds urban, and that an equal number of replies has been received from rural and urban subjects, then the urban replies would be multiplied by two before the final averages were calculated.

Gallup's organization, known as the American Institute of Public Opinion, is financed by selling its results to some seventy American newspapers. His surveys provide in a short time a picture of the state of opinion in the country as a whole, and thus constitute a development of major significance in political democracy. That it is disquieting to many politicians to know what the public is really thinking is shown by the violent attacks made upon straw polls in the conservative press.

It should be pointed out that Gallup's six criteria, listed above, are of unequal importance. Some of them would have very little effect upon the replies to certain issues, and so could be neglected; e.g. political affiliation might be irrelevant to radio-listening habits. Moreover in many inquiries it would be desirable to add to the list the educational status, and/or the general intelligence, of the subjects. Results obtained from a group of a certain intellectual standing may be quite inapplicable to groups of lower or higher standing.

Many investigations, of course, make no claim to yield results typical for the country as a whole, but only sample some specialized group, e.g. school teachers, university students, factory operatives, or business executives. In this case it is, however, still necessary to

[1] In one investigation Gallup obtained a 40 per cent response from people listed in *Who's Who*, 18 per cent from owners of telephones, and 11 per cent from people on relief. He now prefers to rely entirely on interviewing.

study the composition of the group of subjects and to attempt to correct, or to admit frankly, the limitations of sampling. When the returns are incomplete, it is often worth while to make a special study of some of those who failed to reply, for instance by means of personal calls, in order to ascertain whether those who did reply were in any way atypical.

IV. VERBAL TESTS AND RATING SCALES

A. OBJECTS AND DISADVANTAGES OF SCALING

The questionnaires so far described are of value for making a general qualitative or quantitative survey of some field, or for establishing some specific point such as the proportions of persons who hold conservative, liberal, or socialist opinions. In more advanced research, however, it is often desirable to be able to assess quantitatively the differences between either individuals or groups, in respect of some variable. For example, a questionnaire might tell us that 60 per cent of industrial workers and 10 per cent of business men vote socialist, thus indicating that the former group was *more* socialistically inclined than the latter. But in order to measure the voters' strengths or amounts of the socialist attitude, certain modifications must be made in the questionnaire which will transform it into a test or scale. Such a test assumes that the attitude may be regarded as a variable or 'linear continuum', akin, say, to height, pulse rate, or age. It then yields high or positive marks to those who are strongly socialist, low or negative marks to those who are anti-socialist (or vice versa).

To take another instance, children may be classified according to the occupational level of their parents into five or more socio-economic groups. But by a test such as that of V. M. Sims (cf. Table I), each child may be assigned a score on a scale, ranging from 0 to 100, for his socio-economic level. Similarly we may measure a child's intelligence on a continuous scale (cf. Chapter VII), instead of merely classifying him as feeble-minded, dull, average, superior, or brilliant. Again, most people probably regard murder as a more serious crime than bootlegging. By means of scales such as Thurstone's it is possible to express numerically the degree of seriousness, in the eyes of a group of subjects, of these and other

crimes, and furthermore to measure the effects of instruction or propaganda on the seriousness with which a crime is regarded (46, 49).

In the first column of Table I are listed some of the variables, likely to be of interest to social psychologists, which have been so scaled; however, these are only a small, though we hope fairly representative, selection.[1] Subsequent columns give the names of tests devised for measuring the variables. All of these tests, it should be noted, are American; hence they cannot be applied in Britain without modification and restandardization.[2]

It must be admitted that a certain artificiality is present in all attempts to scale psychological traits and attitudes as linear variables. For example, the differences between communist, socialist, liberal, conservative, and fascist attitudes are obviously not purely quantitative; a left-wing to right-wing continuum is a useful conception, but it is an over-simplification of the psychological facts. Similarly, a big increase or decrease in the *amount* of any personality trait appears to involve qualitative changes in the nature of the trait. L. L. Thurstone and E. J. Chave (69), in discussing people's attitudes towards the Church, recognize that these are far too complex and varied to be fully expressed in terms of scores on a single variable. Yet they hold that it is legitimate to abstract some particular aspect of the general attitude, namely bias for or against the Church, and to scale that aspect. This point of view, however, raises further difficulties, which are well discussed by D. Katz and F. H. Allport (31), G. W. Allport (4), and C. Kirkpatrick (33).

B. METHODS OF SCALING

Three main methods of quantifying psychological variables may be distinguished: ranking, numerical and graphic rating, and enumeration.[3]

[1] Fuller lists are given in (59), (60), and (75).

[2] Much work has been done in this country on tests of abilities and on ratings. It may also be claimed that the whole conception of scaling human qualities derives largely from Galton's and Spearman's writings. But there are very few British tests of personal traits or social variables, and these have not been sufficiently used, or are not well enough standardized, to be cited here.

[3] These have been described in detail by G. W. Allport (5), Guilford (23), Symonds (59), and Vernon (75).

TABLE I

PSYCHOLOGICAL VARIABLES WHICH HAVE BEEN SCALED AND MEASURED BY VERBAL TESTS AND RATINGS

Variable	Name of Author and Test	Publisher	Reference describing the Variable or Test
General intelligence and educational abilities.	—	—	Cf. Chapter VII
Moral knowledge, ethical discrimination, etc.	H. Hartshorne & M. A. May : Character Education Inquiry Tests.	Association Press.	(27)
Scales for rating various temperamental, character, or personality traits in self or others.			(59, 60)
Social maturity (rating scale).	E. A. Doll : Vineland Social Maturity Scale.	Vineland, N.J., Training School.	(18)
Socio-economic status (questionnaire).	V. M. Sims : Measurement of Socio-Economic Status.	Bloomington, Ill., Public School Publishing Co.	(14)
Conservatism-radicalism (self-rating test).	T. F. Lentz : C-R Opinionaire.	St. Louis, Mo., Character Research Institute.	(38)
Scientific, artistic, economic, social, political, and religious interests.	G. W. Allport and P. E. Vernon : Study of Values.	Houghton, Mifflin.	(7)
Fair-mindedness *v.* prejudice.	G. B. Watson : Test of Public Opinion.	Teachers' College, Columbia University, Bureau of Publications.	(77)
Superstitiousness, or unfounded beliefs.	G. E. Lundeen and O. W. Caldwell : Questionnaire on Superstition.		(39)
Favourableness or unfavourableness towards Prohibition, the Church, divorce, moving pictures, negroes, etc.	L. L. Thurstone *et al* : Measurement of Social Attitudes (35 scales).	University of Chicago Press.	(66)
Relative popularity of school subjects among children.	J. J. Shakespeare.	—	(54)
Relative importance of various conditions in factory work.	S.Wyatt and J. N. Langdon.	—	(81)
Relative seriousness of crimes.	L. L. Thurstone.	—	(63)
Emotional instability or psychoneurotic tendency.	L. L. and T. G. Thurstone : Personality Schedule.	University of Chicago Press.	(70)
Extraversion-introversion.	J. P. and R. B. Gullford : Nebraska Personality Inventory.	University of Nebraska Press.	(24)
Assertiveness *v.* submissiveness.	G. W. and F. H. Allport : A-S Reaction Study.	Houghton, Mifflin.	(6)
Strength of interests in some thirty vocations.	L. G. Strong : Vocational Interest Blank.	Stanford University Press.	(21)
Masculinity-femininity.	L. M. Terman and C. C. Miles : M-F Attitude-Interest Analysis.	McGraw-Hill.	(61)

1. *Ranking*

Subjects are instructed to arrange, say, a set of crimes in order of seriousness from first to last, or to list various nations in order of preference, or to rank a group of people in order of intelligence, sociability, or other traits. The rankings of the data [1] given by any number of subjects can readily be combined, and the average position of each datum determined.

The ' paired comparison ' technique is an alternative. Here each datum is compared by the subjects directly with every other, and its final score is the number of times it has been preferred. This method is generally considered to be more accurate than ranking, but in practice yields almost identical results. Both techniques are limited to fairly small sets of data ; not more than twenty-five can conveniently be ranked, and not more than twelve scaled by paired comparisons.

2. *Numerical and Graphic Rating*

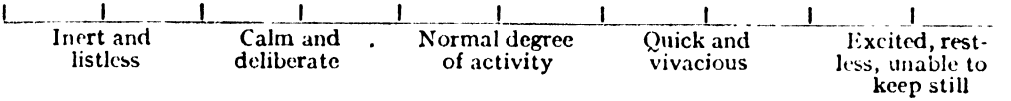
Instead of arranging the data according to their *relative* positions on the given variable, each datum may be assigned an *absolute* numerical value. Thus an answer to a question in an examination paper may be awarded so many marks out of 10 or 100 ; people may be rated from 1 to 5 for sociability, 3 representing an average amount of the trait ; and so on. It is found that subjects can seldom distinguish consistently more than seven different grades of a variable ; percentage marking demands impossibly fine discriminations.

Even with a limited range of marks, the standards of different subjects, i.e. the meanings which they attach to a particular number, may be very diverse. Many subjects, for instance, scarcely ever give marks below the average, while some give far more extreme marks, high and low, than others. Also any one subject's standards may vary from day to day. Though it is possible to correct some of these errors, the majority of social psychologists prefer to dispense with numerical, and substitute graphic, scales, where each grade of a variable is defined in appropriate verbal terms.[2] Thus instead of

[1] The term ' datum ' is used throughout this discussion to refer either to a social issue, attitudes towards which are to be scaled, *or* to a person whose character traits are to be assessed.

[2] Useful practical hints on rating are given by Hunt and Smith (29).

giving marks up to 5 for, say, 'Activity,' a person's standing on this trait can be indicated by checking some point on this line:



Nevertheless his numerical standing can be subsequently determined by measuring the position of the point.

In an attitude self-rating scale such as Thurstone's (cf. Table I), from fifteen to fifty statements are provided, representing various strengths of the attitude. The subject checks any of the statements with which he himself agrees. Each statement has been assigned a score by a method mentioned below (Section G), and the subject's score is the average figure for the statements that he checks. The following are some statements, together with their scores, from the Scale of Attitude toward the Movies (65):

Movies are just a harmless pastime (2·7)
Movies are the most important cause of crime (0·2)
The movies are the most vital form of art to-day (4·3)

3. *Enumeration*

The score for a datum which is derived from a single judgment or response by one subject can hardly be accepted as reliable. For example, a subject's socio-economic status cannot be measured adequately simply from his occupation, since other criteria might indicate a higher or a lower standing. Again, one subject's rating of a person's sociability might differ widely from a second subject's rating for the same person. But greater reliability may be obtained by increasing the numbers. The discrepancies between different raters will tend to cancel one another out if the judgments of half a dozen or more raters are pooled. Similarly, if we select, say, twenty representative criteria of socio-economic status, then a subject's level may be fairly reliably determined from the proportion of these which apply to him. In fact his score for this variable may consist simply of the *number* of criteria out of twenty which he 'passes'. This principle of enumerating the items to which a subject responds in a certain manner is basic to the vast majority of psychological tests, e.g., of intelligence or socio-economic status, introversion or radicalism-conservatism. The latter, for instance, will consist of some fifty to a hundred statements or questions, each of them

partially indicative of a radical or a conservative attitude. The subject records his response ('Yes' or 'No') to each, and his score is the number of radical responses.

Often the numerico-graphic and enumeration methods are combined. Thus each item in a radicalism test may be provided with five grades of response, the most radical scoring + 2, the most conservative — 2. The scores for the subject's answers to all the items are then summed. The same is frequently done in rating scales of the so-called analytic type. The general trait is analysed into several specific components, and a person is rated on each of these components separately. For example, in L. R. Marston's extraversion-introversion scale (41) ratings are given from 1 to 5 on twenty different extraverted or introverted qualities. Hence the total rating may range from 20 to 100.

C. THE CHOICE OF ITEMS

The initial selection of items for inclusion in a scale of the enumeration type should be based on a careful logical analysis of the content of the trait or attitude which the investigator wishes to measure. His aim is to obtain a set of symptoms which will represent as many aspects of the trait as possible. He may compile them himself, or collect specimen manifestations of the trait from other people. The items of extraversion-introversion scales were originally derived from C. G. Jung's descriptions of the extravert and introvert types.[1] Unfortunately, many published tests contain a hotchpotch of symptoms which possess little logical connection or empirical justification. The criteria which we have already described (Section III, C) in dealing with questionnaires should be applied to the wording of the items. In general the descriptive terms should be as concrete as possible; they should ask for information about actual behaviour which is regarded as symptomatic of the trait, rather than for interpretative judgments or emotional reactions.

D. METHODS OF STANDARDIZING ITEMS

The investigator's own opinion is insufficient proof of the suitability of the items. A better criterion is obtained by asking other competent persons to say whether each item appears to be a good index

[1] Cf. Heidbreder (28).

of the trait. Alternatively the 'internal consistency' method of standardizing items is frequently adopted. A preliminary form of the test is given to a group of subjects, and their responses to each item are compared with their scores on the test as a whole. Items which are thereby shown to possess little discriminative value (i.e. those which fail to 'hang together' with the rest) are eliminated.

When possible an empirical check should also be applied. For instance, J. B. Maller's Character Sketches Test (40), which claims to measure certain types of personality maladjustment, was given to over three hundred children known to be delinquents or problem cases, and to an equally large group of normal children. Items were retained only if a significantly larger proportion of the former than of the latter group answered them in the expected manner. An extension of this empirical method of selection is found in several tests, such as L. G. Strong's Vocational Interest Blank.[1] The Blank contains four hundred odd items, to each of which the subject responds with 'Like', 'Dislike', or 'Indifferent'. These were chosen, not to indicate any particular interest or interests, but to sample roughly the whole field of interests. They were first applied to large groups of persons engaged in various occupations (advertisers, accountants, architects, etc.), and the responses of each group were tabulated. A subject's score for interest in, e.g., advertising is then based on the resemblance of his responses to those of the advertisers. The technique seems to work well when a really valid criterion of the trait, attitude, or interest, is available. But it is exceedingly laborious and costly, and we doubt whether such extreme emphasis on objectivity is psychologically fruitful. Nor can such a test legitimately claim to measure interests in the usual psychological sense of the term.

E. WHAT CONSTITUTES A SUITABLE VARIABLE?

Many difficulties arise in scaling, and in the selection of items, owing to the indeterminateness of the content of traits. It is relatively easy to define the content of, say, arithmetical ability, and then to devise a series of arithmetical tasks which will measure degrees of this ability. Socio-economic status is more vague, radicalism and introversion still more so. Many of the traits to which we commonly

[1] Cf. Fryer (21).

refer in describing people's characters and personalities are found to be very impure, or to be much less general and consistent than we suppose. J. P. and R. B. Guilford (24) have shown, for instance, that the conventional conception of extraversion embodies five distinct components, which they have tentatively identified as sociability, emotional maturity or independence, masculinity or aggressiveness, care-freeness, and weak intellectual interests.

The converse also occurs, namely such close overlapping between apparently different traits that it is wasteful to try to scale them separately. For example, Strong's test, already mentioned, measures some thirty vocational interests; but an analysis of the scores by Thurstone (67) suggests that there are only four main types of such interests: literary, scientific, business, and interest in people. Hence if a subject's relative scores on these four types could be accurately measured, it would be theoretically possible to predict his more specific interests in an indefinite number of vocations.

Consistency or inconsistency, and overlapping of scores are, of course, studied by means of correlation methods (see Chapter VI). The analysis of the resulting correlation coefficients, in order to isolate distinctive and self-consistent variables, is accomplished by statistical 'factor analysis' techniques, which are too complex to describe here [1]; accounts are given by Guilford (23) and P. E. Vernon (75). Perhaps the most useful techniques for social psychologists are C. E. Spearman's,[2] Thurstone's (68), and W. Stephenson's (57). How far these powerful tools will solve our problems is still uncertain, however, for they are hampered by the defectiveness inherent, as we shall see below, in the type of material to which they are applied.

F. SCALING IN EQUIVALENT UNITS

When the differences between data in respect of some variable have been expressed in numerical terms, we are apt to suppose that these numbers are, like the numbers in which physical quantities are expressed, the multiples of some common and constant unit. This supposition is usually quite illegitimate. Suppose individuals A, B, and C are rated on a 5-point scale for sociability, and are given

[1] For an introduction to Spearman's technique, see Chapter VII, Section III.

[2] Cf. Webb (78).

4, 3, and 2 marks respectively. It is not true that A is twice as sociable as C, and it is improbable that A's sociability exceeds B's by the same amount as B's exceeds C's. Again, if a subject ranks ten nations in order of preference, the differences between his liking for Nos. 1 and 2, 2 and 3, 3 and 4, etc., are most unlikely to be equal to one another. Probably, though not certainly, the differences at the extremes (1–2, 2–3, 8–9, 9–10) are larger than the intermediate ones (4–5, 5–6). None of these numbers, therefore, are comparable to numerical divisions on a physical scale, such as inches on a ruler, or seconds on a clock. The same criticism applies to scales where the scores are based on enumerations of items.

Now it is known that a great many human characteristics which can be measured in physical units are normally distributed (see Chapter VI). For instance, if the heights of a large group of people are measured, most of the figures range closely around the average, and relatively few are found at either extreme. It is sometimes assumed, therefore, that mental traits, if accurately measured, would be similarly distributed. Though the assumption is not always justifiable,[1] it does at least provide a more rational basis for scaling than does mere neglect of the problem. When a subject has to rate, say, forty people on a 5-grade numerical or graphic scale, he should therefore be instructed to assign the average mark, 3, to about fifteen persons, 2 marks to nine or ten persons, and 4 to the same number; while the extreme marks, 1 or 5, should each be given to only three persons. The distribution will then be approximately normal.[2]

Alternatively the investigator may himself convert sets of ratings into 'standard deviation scores'. Similarly when a series of data (e.g. nations, persons) is to be ranked, a better notion of their relative standings may be obtained by turning the ranks into 'standard deviation scores' (see p. 158). The conversion is readily effected by

[1] Thus it has been shown that the distribution of degrees of belief or disbelief in certain religious and political propositions may be U-shaped (cf. Chapter I, Section III). In other words, any pressure towards social conformity may completely distort what might otherwise approximate to a normal distribution. Cf. also F. H. Allport (2).

[2] For a fuller account of this distribution of ratings, see Hunt and Smith (29) and Hamley (26). Symonds (59) and Guilford (23) list the exact proportions which should be placed in each grade when scales with other numbers of grades are employed.

means of the tables given by P. M. Symonds (59) and Guilford (23). In a well-constructed test of the enumeration type, the scores of an unselected group are generally found to conform to the normal curve.

G. THURSTONE'S SCALING TECHNIQUES

The more accurate methods of arriving at equivalent units, devised by Thurstone (64, 69), do not assume that the data are likely to be normally distributed, but only that people's judgments of any one datum will tend to normality. Thus if a large group of subjects rank a list of crimes in order of seriousness and, on the average, put bootlegging sixth, then many subjects will rank it fifth or seventh, fewer will place it fourth or eighth, fewer still third or ninth, and so on. These methods are too technical to describe here ; a good account is given by Guilford (23). They are adapted from the psychophysical methods employed by psychologists for grading attributes of sensations, such as brightness or loudness. When applied, for example, to judgments (by paired comparisons) of a set of crimes, they yielded a scale ranging from Vagrancy (0·0) to Rape (3·28), with Receiving (1·0), Bootlegging (1·03), Seduction (2·28), and other crimes intermediate. These figures *do* represent units which are psychologically equivalent. Nationality preferences have been similarly scaled. A still more important application is to the grading of statements in an attitude test. The scores of the three items from the Scale of Attitude toward the Movies (quoted in Section IV, B, 2) were derived from judgments by a large group of subjects on the favourableness or unfavourableness of these and other items. In the same way the various points or grades in a graphic scale for rating human character traits may be assigned rational numerical values.

Thurstone's methods have been criticized by G. W. Allport (4), Kirkpatrick (33), and others. One weakness is that the scales possess no true zero points, hence they cannot measure amounts of a variable, but only differences between data with respect to that variable. Perhaps a more weighty consideration is that social psychological measurements are usually rather crude and approximate, as we have suggested above (Section IV, A) ; hence these methods are unnecessarily refined, and make little practical difference to the results. Nevertheless it must be admitted that, for accurate research purposes, they constitute a valuable advance.

V. DEFECTS IN VERBAL TESTS AND RATINGS: PRECAUTIONS IN THEIR INTERPRETATION

The many possible errors to which we drew attention in discussing questionnaires are even more likely to occur in verbal tests and ratings, since the more mechanized form of these scales entirely excludes the spontaneous comments or qualifications which, it was shown (Section III, C), might aid in the interpretation of responses. The very definiteness and objectivity of the numerical result may obscure its psychological significance. Nor is it always an advantage to increase the reliability by multiplying the number of items, for sometimes more can be learnt by following up an individual's responses to particular items in an interview than from his aggregate score. There is seldom any possibility of detecting from a completed test when the subject has rationalized or faked his answers, and the validity of the result is therefore entirely dependent on the subject's candidness and willingness to co-operate.

A. ATTITUDE SCALES

Surveys of group attitudes towards a set of issues (e.g. nationality preferences, judgments of crimes) are usually likely to be trustworthy, since there are few inhibitions about such matters. The investigator's object is to measure people's openly expressed prejudices. By contrast, however, tests of moral judgment or ethical discrimination generally yield very poor results (27); they fail entirely to agree with other measures of moral character, although they do correlate with intelligence. This suggests that the reprobate, provided he is sufficiently intelligent, can guess the purpose of the tests and answer them in accordance with conventional ethical codes.

Most tests of individual attitudes, such as Thurstone's scales, radicalism tests, and so forth, generally ask for information which is readily disclosed, and their results seem to be of considerable value, at least when derived from sophisticated subjects. Significant differences are found between individuals or groups whose social, political, religious, or other opinions might be expected to differ. They are therefore often used for investigations into the effects of propaganda (46, 49). The same commendation holds for tests of interests, though it has been shown that a subject answering Strong's Interest Blank can readily simulate a strong interest in a certain

occupation if he wishes to do so (56). The object of the test is partly disguised in the case of some of those listed above, e.g. Allport-Vernon's Study of Values, Watson's test of fair-mindedness *v.* prejudice, and Terman-Miles's test of masculinity-femininity. Artistic interests, fair-mindedness, and masculinity have too much prestige for a direct approach to be successful.

The form of this type of test does not, as might have been feared, markedly distort the subject's spontaneous attitudes. Although he may object to the restrictions imposed on his natural responses to the items, yet the consequent misrepresentations tend to cancel one another out when his responses to all the items are totalled. In an investigation by S. A. Stouffer (58), subjects were asked to provide confidential accounts of their experiences and opinions regarding prohibition; these unforced accounts were then rated by four independent judges according to their favourableness or unfavourableness towards Prohibition, and the pooled ratings were found to correlate very closely with the same subjects' scores on Thurstone's Prohibition Scale.

B. SELF-RATING PERSONALITY TESTS

The many self-rating tests of emotional traits such as introversion, emotional instability, or psychoneurotic tendency are much more dubious. Although their form is the same as that of attitude tests, and although they are often given some non-committal title (e.g. 'Personality Inventory'), yet they ask for information about such personal and intimate matters that subjects are very likely to feel hesitation, embarrassment, or resentment.[1] The assurance that their replies will be treated confidentially can hardly dispel these adverse reactions, unless the subjects have exceptional trust in the investigator who administers the test, or believe that complete frankness will be to their own advantage. Even when favourable co-operation is established, their memories for emotionally-toned experiences and their opinions about their own characteristics are liable to unconscious distortions and rationalizations. As the writer has shown elsewhere (75), a highly suggestible person is likely to exaggerate his emotional weaknesses and to accept many

[1] For a good account of these reactions by psychologists who have made extensive use of such tests, see Willoughby and Morse (80).

symptoms because they appear in the test. More sophisticated persons, who are strongly conscious of their own emotional lives, are also apt to get high scores for emotionality or introversion, without necessarily being more emotional than others who believe that they are free from such symptoms. The tests show quite good reliability, in the sense that scores obtained on one half of a test agree well with scores on the other half, and that scores do not alter greatly on retesting. But this merely indicates that the subjects' 'self-portraits' are consistent and constant, not that such portraits correctly represent the traits.

Nevertheless the results of these tests are not entirely worthless, for a self-portrait, however biased, is valuable when rightly interpreted.[1] They do generally show moderate agreement with other criteria of the trait, e.g. with ratings by acquaintances. Under good conditions they can usefully be combined with other, more objective, tests and ratings to yield useful composite measures of temperament and personality. Yet the results are often highly irregular and disappointing. For instance, they fail to reveal differences between psychotic or neurotic patients in mental hospitals and normal persons (30). Their indiscriminate application, so common in America, to large groups of students, children, and others, is therefore to be deprecated.

C. RATINGS OF OTHERS

Due regard should similarly be paid to possible inhibitions and prejudices among raters when they are asked to assess their acquaintances' traits, either on a numerical or graphic scale, or by ranking. It is commonly admitted that ratings of very general and indefinite personality traits (e.g. 'Integrity', 'Tactfulness', 'Co-operativeness') are of little value, since such conceptions are strongly toned by social and moral prejudices and may be very diversely interpreted by different raters. Hence analytic scales, which require assessments of concrete types of behaviour, are preferred. But even these ratings are greatly affected by the rater's emotional attitude towards the person he is rating; they cannot be taken as true records of behaviour which the rater has actually observed (37). Experiments have shown that ratings of observed

[1] Cf. the discussion of autobiographies, section II, A.

actions are but little superior to ratings of actions which have only been inferred (48); also that length and intimacy of acquaintanceship may decrease rather than increase the accuracy of judgment (34).

Ratings may be greatly improved by obtaining several judges who are interested and co-operative, by careful construction of the scale, and by training the raters in its use and in the avoidance of common errors. Under such conditions ratings may yield what are probably the best available measures of the traits, certainly better than the results of any self-rating or objective test. They are therefore widely employed in schools, business concerns, and elsewhere, for assessing the qualities of pupils (26) and personnel, as well as for research purposes. But it is still necessary to remember that they are primarily subjective judgments, just as much as are judgments of, say, the seriousness of crimes; they represent the 'reputation' of the persons rated in the eyes of the raters.

The personal element in all ratings is usually termed 'halo effect', since the rater sees his victim, as it were, through a halo or aura.[1] It is manifested in the rater's inability to distinguish between what should be discrete traits (e.g. he tends to ascribe to an artist all the conventional characteristics of the artistic temperament, failing to notice inconsistencies which do not fit in with his oversimplified picture), and in his inclination to rate his friends too high on all desirable traits, his enemies too low.[2] The extent of correlation between different raters judging the same subject is therefore distressingly small, though raters who possess a similar 'slant' towards the subject agree more closely with one another than do those who regard him from a different angle (43).

VI. CONCLUSIONS

We would suggest that there is considerable scope for the further development of a type of investigation intermediate between the questionnaire or test and the interview. If a trained examiner

[1] It is curious that the appropriateness of Thorndike's term 'halo' has never been questioned. An 'aura' is a better name than a halo for this general haze which obscures the rater's view of particular traits.

[2] It is these subjective factors, both in self-rating tests and in ratings of others, which influence the correlations between different variables, and so upset the results of statistical studies such as those mentioned in Section IV, E.

fills up a previously prepared scale on the basis of information supplied orally by the subject, he should be able to obviate the misunderstandings and ambiguities which bulk so large in the written techniques we have described, and at the same time reap the advantages of reliable, quantitative measures of psychological variables. Good examples of such a method are supplied by the ratings assigned to vocational guidance candidates at the National Institute of Industrial Psychology (see Chapter XI), and by E. A. Doll's (18) Vineland scale for rating social maturity.

In general we would also recommend much closer study of the form of questions in questionnaires, verbal tests, and rating scales, of the subjects' spontaneous reactions to various types of questions, and of the psychological significance of various types of responses. Correlational studies and empirical investigations of the reliability and validity of the scales, such as are carried out widely in America, are of undoubted value. But at the moment the testing and statistical techniques appear to have outstripped our knowledge of their proper application and interpretation.

REFERENCES

(1) Alexander, F., " Evaluation of statistical and analytical methods in psychiatry and psychology," *Amer. J. Orthopsychiat.*, 1934, iv, 433–448.
(2) Allport, F. H., " The J-curve hypothesis of conforming behavior," *J. Soc. Psychol.*, 1934, v, 141–183.
(3) Allport, F. H., Walker, L., and Lathers, E., " Written composition and characteristics of personality," *Arch. Psychol.*, 1934, xxvi, No. 173. pp. 82.
(4) Allport, G. W., " Attitudes," *A Handbook of Social Psychology* (ed. C. Murchison). Worcester, Mass.: Clark University Press, 1935, chap. 17.
(5) Allport, G. W., *Personality : A Psychological Interpretation.* New York : Holt, 1937. pp. 588.
(6) Allport, G. W., and Allport, F. H., "A test for ascendance-submission," *J. Abn. Soc. Psychol.*, 1928, xxiii, 118–136.
(7) Allport, G. W., and Vernon, P. E., " A test for personal values," *J. Abn. Soc. Psychol.*, 1931, xxvi, 231–248.
(8) Allport, G. W., and Vernon, P. E., *Studies in Expressive Movement.* New York : Macmillan, 1933. pp. 269.
(9) Arnheim, R., " Experimentell-psychologische Untersuchungen zum Ausdrucksproblem," *Psychol. Forsch.*, 1928, xi, 1–132.
(10) Bartlett, Sir F., *Remembering.* Cambridge University Press, 1932. pp. 317.

(11) Birkinshaw, M., *The Successful Teacher*. London : Hogarth Press, 1935. pp. 128.
(12) Black, J. D. (ed.), *Research in Social Psychology of Rural Life*. New York : Social Science Research Council, 1933. pp. 130.
(13) Bühler, C., *Der menschliche Lebenslauf als psychologisches Problem*. Leipzig : Hirzel, 1933. pp. 328.
(14) Chapman, J. C., and Sims, V. M., " The quantitative measurement of certain aspects of socio-economic status," *J. Educ. Psychol.*, 1925, xvi, 380–390.
(15) Cole, L., *Psychology of Adolescence*. New York : Farrar and Rinehart, 1936. pp. 503.
(16) Crossley, A. M., " Straw polls in 1936," *Public Opinion Quart.*, 1937, i, 1, 24–35.
(17) Davis, K. B., *Factors in the Sex Life of Twenty-two Hundred Women*. New York : Harper, 1929. pp. 430.
(18) Doll, E. A., " Preliminary standardization of the Vineland social maturity scale," *Amer. J. Orthopsychiat.*, 1936, vi, 283–293.
(19) Dollard, J., *Criteria for the Life History*. New Haven : Yale University Press, 1935. pp. 288.
(20) Flexner, A., *Universities, American, English, German*. London : Oxford University Press, 1930. pp. 381.
(21) Fryer, D., *The Measurement of Interests*. New York : Holt, 1931. pp. 488.
(22) Goodenough, F. L., and Anderson, J. E., *Experimental Child Study*. New York : Century, 1931. pp. 543.
(23) Guilford, J. P., *Psychometric Methods*. New York : McGraw-Hill, 1936. pp. 566.
(24) Guilford, J. P., and Guilford, R. B., " Personality factors S, E, and M, and their measurement," *J. Psychol.*, 1936, ii, 109–127.
(25) Hamilton, G. V., *A Research in Marriage*. New York : Boni, 1929. pp. 570.
(26) Hamley, H. R., *et al.*, *The Educational Guidance of the School Child*. London : Evans, 1937. pp. 122.
(27) Hartshorne, H., and May, M. A., *Studies in the Organization of Character*. New York : Macmillan, 1930. pp. 503.
(28) Heidbreder, E., " Measuring introversion and extroversion," *J. Abn. Soc. Psychol.*, 1926, xxi, 120–134.
(29) Hunt, E. P. A., and Smith, P., *The Teacher's Guide to Intelligence and Other Psychological Testing*. London : Evans, 1935. pp. 94.
(30) Hunt, J. M., " Psychological experiments with disordered persons," *Psychol. Bull.*, 1936, xxxiii, 1–58.
(31) Katz, D., and Allport, F. H., *Students' Attitudes*. Syracuse, N.Y. : Craftsman Press, 1931. pp. 408.
(32) Katz, D., and Cantril, H., " Public opinion polls," *Sociometry*, 1937, i, 155–179.
(33) Kirkpatrick, C., " Assumptions and methods in attitude measurements," *Amer. Sociol. Rev.*, 1936, i, 75–88.
(34) Knight, F. B., " The effect of the ' acquaintance factor' upon personal judgments," *J. Educ. Psychol.*, 1923, xiv, 129–142.

(35) Koos, L. V., *The Questionnaire in Education*. New York : Macmillan, 1928. pp. 178.
(36) Kretschmer, E., *The Psychology of Men of Genius* (trans. R. B. Cattell). London : Kegan Paul, 1931. pp. 252.
(37) Landis, C., " The justification of judgments," *J. Person. Res.*, 1925, iv, 7–19.
(38) Lentz, T. F., " Reliability of opinionaire technique studied intensively by the retest method," *J. Soc. Psychol.*, 1934, v, 338–364.
(39) Lundeen, G. E., and Caldwell, O. W., " A study of unfounded beliefs among high school seniors," *J. Educ. Res.*, 1930, xxii, 257–273.
(40) Maller, J. B., *Character Sketches*. New York : Teachers' College, Columbia University, Bureau of Publications, 1932.
(41) Marston, L. R., " The emotions of young children," *Univ. Iowa Stud. in Child Welfare*, 1925, iii, No. 3. pp. 94.
(42) Mathews, C. O., " The effect of position of printed response words upon children's answers to questions in two-response types of tests," *J. Educ. Psychol.*, 1927, xviii, 445–457.
(43) May, M. A., and Hartshorne, H., " Recent improvements in devices for rating character," *J. Soc. Psychol.*, 1930, i, 66–77.
(44) McCance, R. A., Luff, M. C., and Widdowson, E. E., " Physical and emotional periodicity in women," *J. Hyg.*, 1937, xxxvii, 571–611.
(45) Morgan, C. D., and Murray, H. A., "A method for investigating fantasies," *Arch. Neurol. Psychiat.*, 1935, xxxiv, 289–306.
(46) Murphy, G., Murphy, L. B., and Newcomb, T. M., *Experimental Social Psychology*. New York : Harper, 1937. pp. 1121.
(47) Muscio, B., " The influence of the form of a question," *Brit. J. Psychol.*, 1916, viii, 351–389.
(48) Newcomb, T. M., " An experiment designed to test the validity of a rating technique," *J. Educ. Psychol.*, 1931, xxii, 279–289.
(49) Peterson, R. C., and Thurstone, L. L., *Motion Pictures and the Social Attitudes of Children*. New York : Macmillan, 1933. pp. 75.
(50) Phillips, M., *The Education of the Emotions*. London : Allen and Unwin, 1937. pp. 318.
(51) Robinson, C. E., " Recent developments in the straw-poll field," *Public Opinion Quart.*, 1937, i, 3, 45– .
(52) Rundquist, E. A., and Sletto, R. F., *Personality in the Depression*. Minneapolis : University of Minnesota Press, 1936. pp. 398.
(53) Schanck, R. L., " A study of a community and its groups and institutions conceived of as behaviours of individuals," *Psychol. Monog.*, 1932, No. 195. pp. 133.
(54) Shakespeare, J. J., " An enquiry into the relative popularity of school subjects in elementary schools," *Brit. J. Educ. Psychol.*, 1936, vi, 147–164.
(55) Shaw, C. R., *The Jack-Roller*. University of Chicago Press, 1930. pp. 205.
(56) Steinmetz, H. C., " Measuring ability to fake occupational interest," *J. Appl. Psychol.*, 1932, xvi, 123–130.
(57) Stephenson, W., " The inverted factor technique," *Brit. J. Psychol.*, 1936, xxvi, 344–361.

(58) Stouffer, S. A., " Experimental comparison of a statistical and a case history technique of attitude research," *Pub. Amer. Sociol. Soc.*, 1931, xxv, 154–156.
(59) Symonds, P. M., *Diagnosing Personality and Conduct*. New York: Century, 1931. pp. 602.
(60) Symonds, P. M., *Psychological Diagnosis in Social Adjustment*. New York: American Book Co., 1934. pp. 362.
(61) Terman, L. M., and Miles, C. C., *Sex and Personality*. New York: McGraw-Hill, 1936. pp. 600.
(62) Thomas, W. I., and Znaniecki, F., *The Polish Peasant in Europe and America*, 2nd ed. New York: Knopf, 1927. 2 vols. pp. 2250.
(63) Thurstone, L. L., " The method of paired comparisons for social values," *J. Abn. Soc. Psychol.*, 1927, xxi, 384–400.
(64) Thurstone, L. L., " An experimental study of nationality preferences," *J. Gen. Psychol.*, 1928, i, 405–425.
(65) Thurstone, L. L., " A scale for measuring attitude toward the movies," *J. Educ. Res.*, 1930, xxii, 89–94.
(66) Thurstone, L. L., " The measurement of social attitudes," *J. Abn. Soc. Psychol.*, 1931, xxvi, 249–269.
(67) Thurstone, L. L., " A multiple factor study of vocational interests," *Person. J.*, 1931, x, 198–205.
(68) Thurstone, L. L., " Multiple factor analysis," *Psychol. Rev.*, 1931, xxxviii, 406–427.
(69) Thurstone, L. L., and Chave, E. J., *The Measurement of Attitude*. University of Chicago Press, 1929. pp. 96.
(70) Thurstone, L. L., and Thurstone, T. G., "A neurotic inventory," *J. Soc. Psychol.*, 1930, i, 3–30.
(71) Valentiner, T. W. B., " Die Phantasie im freien Aufsatze der Kinder und Jugendlichen," *Zsch. f. angew. Psychol.*, 1916. Beiheft xiii. pp. 168.
(72) Vernon, P. E., " The personality of the composer," *Music and Letters*, 1930, xi, 58–70.
(73) Vernon, P. E., " The attitude of the subject in personality testing," *J. Appl. Psychol.*, 1934, xviii, 165–177.
(74) Vernon, P. E., " The matching method applied to investigations of personality," *Psychol. Bull.*, 1936, xxxiii, 149–177.
(75) Vernon, P. E., " The assessment of psychological qualities by verbal methods," *Rep. Industr. Hlth. Res. Bd.*, No. 83. London: H.M. Stationery Office, 1938. pp. 124.
(76) Wang, C. K. A., " Suggested criteria for writing attitude statements," *J. Soc. Psychol.*, 1932, iii, 367–373.
(77) Watson, G. B., " The measurement of fairmindedness," *Columbia Univ. Teach. Coll. Contr. Educ.*, 1925, No. 176. pp. 97.
(78) Webb, E., " Character and intelligence," *Brit. J. Psychol. Monog. Suppl.*, 1915, i, No. 3. pp. 99.
(79) Wheeler, O. A., " Variations in the emotional development of normal adolescents," *Brit. J. Educ. Psychol.*, 1931, i, 1–12.
(80) Willoughby, R. R., and Morse, M. E., " Spontaneous reactions to a personality inventory," *Amer. J. Orthopsychiat.*, 1936, vi, 562–575.

(81) Wyatt, S., and Langdon, J. N., " Fatigue and boredom in repetitive work," *Rep. Industr. Hlth. Res. Bd.*, No. 77. London: H.M. Stationery Office, 1937. pp. 77.

SUGGESTIONS FOR GENERAL READING

Allport (5), Fryer (21), Goodenough and Anderson (22), Guilford (23), Katz and Allport (31), Katz and Cantril (32), Koos (35), Murphy, Murphy and Newcomb (46), Shaw (55), Symonds (59, 60), Terman and Miles (61), Thurstone and Chave (69), Vernon (75).

Chapter X

SOME METHODS OF ASSESSING TEMPERAMENT AND PERSONALITY

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I. INTRODUCTION

A. TEMPERAMENT

The term 'temperament' has been used since classical times to denote the factors which vary in different types of 'personality'. Temperamental differences are usually considered to be of a qualitative rather than a quantitative order. The notion that humanity can be roughly divided into two inherently opposed types of personality, each with its characteristic temperamental basis, is as old as the concept of temperament itself. Its modern expression is seen in such categories as the 'tough-minded' and 'tender-minded' of William James, the 'introverts' and 'extraverts' of C. G. Jung, and the 'schizothymes' and 'cyclothymes' of E. Bleuler and E. Kretschmer.

Most current psychological definitions of temperament stress its physical basis. Thus W. McDougall (35) has defined temperament as "the sum of the effects upon mental life of the metabolic or chemical changes that are constantly going on in all the tissues of the body" (p. 354). Perhaps a better definition, in that it stresses both the affective nature of temperament and its neural and endocrine basis, is that of Kretschmer (32), for whom "temperament denotes the general affective disposition characterizing the entire individuality, the special selective affective levels on which the individuality reacts for preference in conjunction with the neuro-humoral sub-strata" (p. 53).

The incompleteness of our knowledge in the temperamental field is generally admitted; for this reason the modern concept of temperament is largely heuristic, and it is impossible to set a too rigid standard in deciding what phenomena are to be considered

temperamental. In its narrowest application the term is used to refer to excitability and to the prevailing mood. In its widest sense it has been used to denote the personality as a whole, and while this usage is undoubtedly too loose, it must be borne in mind that, according to any definition, there is no known aspect of human behaviour which is not modified to some degree by temperament.

B. CHARACTER

In addition to inherent temperamental factors, we must consider also those acquired factors which constitute the ' character '. For our present purpose, character may be considered as the system of moral or ethical values implicit in the conduct of the individual. Character is of great importance in social psychology because of its relation to group morality and the social ethos, and its various manifestations are, therefore, especially worthy of study and measurement. Yet it is necessary to remember that character seems to be almost inextricably interwoven with temperament and with instinct, and that any attempt at isolating a supposedly pure ' character level ' is an entirely arbitrary proceeding.

C. PERSONALITY

By ' personality ' we mean the whole system of psychological factors, both inherent and acquired, which underly the behaviour of the individual. In view of the difficulty of separating particular levels of origin of behaviour, some writers have felt it best to enquire into certain characteristics, or behaviour ' traits ', in terms of the general personality, without attempting any exact definition of their level of origin. There is much to be said in favour of such a procedure, for whatever label we may attach to a given test or measure, what is in fact being tested or measured is not ' intelligence ', ' temperament ', ' character ', ' emotionality ', or any similar abstraction, but *behaviour*; and behaviour is a function of the personality as a whole. All our tests are, therefore, in the ultimate analysis, tests of personality, though possibly with special reference to one or other of its particular aspects.

Two main approaches to the problems of temperament, character, and personality have developed within recent years, namely, the

descriptive typology of the German schools, and the attempts to isolate and measure single ' traits ' which have been made principally in England and America.[1]

II. THE TYPOLOGICAL APPROACH

German writers, recognizing the heuristic connotations of many of our present concepts, and studying the subject largely from the neuro-psychiatric angle, have tried to depict the broad lines of the personality as a whole, describing those individuals who have certain outstanding features in common as ' types '. The principal successes of the method have been in the field of temperament. Here Kretschmer's work is the best known, and perhaps the most valuable ; particularly on account of its anthropological implications it will be taken here as the paradigm of the typological approach.[2]

As the result of a very large psychiatric experience, Kretschmer (31) has described two main types of personality, distinguished from one another on a temperamental basis. His evidence is largely descriptive, even anecdotal, and he offers few figures to support his conclusions ; but he has made a contribution of first-class importance to our knowledge of personality, and one which could be profitably exploited by psychologists in the anthropological field.[3] The two main types of temperament, the schizothyme and the cyclothyme, are connected, he claims, with certain types of physical constitution, individuals of ' leptosomatic ' or long-bodied build, as well as those having certain developmental anomalies (dysplasias), being predominantly schizothymic, while those of round-bodied or ' pyknosomatic ' build are predominantly cyclothymic.

Schizothymic temperaments vary principally in their sensitivity (psychaesthesia), ranging from hypersensitivity and excitability to frigidity and anaesthesia. Cyclothymic temperaments, on the

[1] The differences between the American and the German approaches to the study of personality have been admirably discussed by Vernon (50).

[2] For discussions of other typological approaches, see Allport (1) and Roback (43).

[3] For a review of the application of typological conceptions to anthropological material by R. Benedict, M. Mead, and G. Bateson, see S. F. Nadel, " The typological approach to culture," *Character and Personality*, 1937, v. 4, 267–284.

other hand, vary principally in mood (diathesis), ranging from exaltation to depression. The schizothymes are in less direct contact with their environment than the cyclothymes; inner elaborations of external stimuli are more frequently set up, and emotionally-toned systems formed. Hence the reactions of the schizothymes are less predictable in terms of the nature of the immediate stimulus than are those of the cyclothymes, who tend to respond more readily and to form few inner elaborations or 'complexes'.

A further difference, possibly even more fundamental, lies in the peculiar 'jerkiness' of all psycho-neural processes in the schizothyme, as compared to their smoothness in the cyclothyme. The variations in the emotional state or sensitivity of schizothymes are sudden and abrupt. Although a schizothyme may be outwardly calm and insensitive for long periods, a sensitive 'complex', i.e. a psychological pattern, having a high affective 'charge' for the individual, may suddenly cause an abrupt and violent reaction, which may last, in characteristic cases, until a further stimulus seems to 'jerk' the individual over to a different reaction. In the cyclothyme, by contrast, the swings of mood, however extreme, take a smoother and more gradually progressive course.

The jerkiness of the schizothyme is not confined to emotional and intellectual processes; it appears also, and most conspicuously, at the psycho-motor level. The movements of the schizothyme are more abrupt, whilst those of the cyclothyme flow more evenly. This fact is important in the assessment of temperament, since the relatively simple psycho-motor level is more accessible to measurement than the more complex and variable higher emotional and intellectual processes.

The nature of the rhythm of psycho-neural process may be the most important of all differences between personalities, for all temperamental divergences may prove to be dependent upon the smoothness or jerkiness with which the pattern of excitation spreads in the nervous system.

The principal features of the two main types of temperament described by Kretschmer are given in the following tables.[1] The possible applications of his theory in social psychological studies will be immediately evident, although the complex and subtle

[1] See (32), pp. 252, 255.

temperamental nuances, which Kretschmer describes and discusses with great acumen, are not easily conveyed in tabular form.

There is as yet little statistical confirmation of Kretschmer's views, for no large-scale investigation of normal populations has been made. The work of F. J. Wertheimer and F. E. Hesketh (53) on mental patients, and that of G. J. Mohr and R. H. Gundlach (36) on convicts,

TABLE 1

	Cyclothymes	Schizothymes
Psychaesthesia and moods	Diathetic scale : between exalted (jolly) and depressed (sad)	Psychaesthetic scale : between hyperaesthetic (sensitive) and anaesthetic (cool)
Psychic tempo . .	Oscillation between lively and 'comfortable'	Jerky temperamental curve : between desultory and tenacious, alternating between predominance of thinking and predominance of feeling
Psychomotility . .	Adequate responsiveness to stimuli : rounded, natural, supple	Often inadequate responsiveness to stimuli : restrained, halting, inhibited, stiff, etc.
Correlated type of physique	Pyknosomatic	Leptosomatic, athleticosomatic, dysplastic, and blends of these

TABLE 2

THE SIX CHIEF TEMPERAMENTS

1. *Hypomanic* : Cheerful, lively, mobile.
2. *Syntonic* : Practical realists, easy-going humorists.
3. *Phlegmatic*.
4. *Hyperaesthetic* : Touchy, nervous, delicate-minded, introspective individuals ; idealists.
5. *Schizothymes at the mid-position of the psychaesthetic scale* : Coldly energetic ; systematic and logical ; calmly aristocratic.
6. *Anaesthetic* : Cold, frigidly nervous ; odd and eccentric ; ndolent ; affectively weak ; apathetic loafers.

seems, however, to confirm his theories. In medical and psychiatric practice it is the common experience that the majority of normal subjects are of mixed types, showing some features of each of the antithetic types in varying degrees. But this in no way invalidates the typological interpretation of personality. As Kretschmer himself suggests, neither the physical nor the temperamental types are to be regarded as disparate entities, but rather as extreme points on a scale of distribution of complex, genetically determined characteristics, pure examples of any one type being unusual.

Lastly, it must be remembered that temperament is never static or unalterably fixed. It may be modified, or even completely altered, by the varied influences to which it is constantly exposed : maturation and decline, metabolic changes, disease, and psychogenic forces.

III. THE STATISTICAL APPROACH AND THE STUDY OF TRAITS

Contrasted with the descriptive methods adopted by Kretschmer and other German psychologists are the attempts to study personality by more objective, and especially more quantitative methods which have been made in England and America. Considering the concept of temperament as too loose and too essentially dynamic to allow of direct measurement, psychologists of the ' statistical ' schools have attempted to overcome the difficulty by measuring single ' traits ' and ascertaining their statistical relationships.

This method has the advantage of involving less subjective speculation and less use of intuition than the descriptive approach ; on the other hand, the problem arises of deciding what kind of evidence should be accepted as proving the existence of a ' trait '. The characteristics of behaviour which the man in the street calls ' traits ' often have so superficial a basis that they cannot be taken at their face value. It is essential that the quality investigated should appear in a wide variety of objective situations, the existence of the trait being inferred from data obtained through the application of carefully devised test batteries or rating scales.

A. TEMPERAMENT TRAITS

If the term ' temperament ' is narrowly interpreted, the ' temperament traits ' are confined by definition to variations on the scale of excitability or mood ; if ' temperament ' is somewhat more widely interpreted, the traits will correspond to degrees of introversion or extraversion.[1] For the assessment of any such quality *per se* we

[1] Stagner (46) describes certain ' implicit ' traits of personality, which are evidently closely allied to, if not identical with, temperament traits. The major traits which he distinguishes are : emotional sensitivity, or the tendency to give unpleasant and depressed responses to stimuli ; self confidence, or the tendency to approach situations which threaten failure ; and sociability, or the tendency to seek and enjoy the companionship of others.

are dependent upon very indirect means, however, since none of them, with the possible exception of excitability, are susceptible to direct measurement or observation.

Some psychologists have, therefore, taken as their entities, not the traits which appear at the behaviour level, but underlying 'factors' claimed to be common to a number of such traits.[1] Ratings [2] are first obtained on a number of traits, and the existence of the factors is then established by statistical means. R. B. Cattell (10) defines as 'surgent' and 'desurgent' two groups of temperament traits which have an evident relationship to Jung's extravert and introvert types respectively; Cattell states, in fact, that introversion is equivalent to his 'desurgency' *plus* a certain kind of emotional maladjustment. Surgency and desurgency are, he considers, determined by the presence or absence of a 'general temperamental' or '*c*' factor. The related temperament traits are:

c+	c−
Surgent or Extravert	*Desurgent or Introvert*
Cheerful	Solemn
Natural	Formal
Sociable	Unsociable
Humorous	Earnest
Adaptable	Conservative
Quick of apprehension	Slow of apprehension
Hasty	Introspective
Confident	Anxious

C. Burt (9) has analysed the overtly displayed temperament traits of 124 neurotic and delinquent children. The correlations found between the traits have led him to postulate a factor of 'general emotionality', which is presumably related to excitability, and "two bipolar factors making (1) for aggressive as contrasted with inhibitive emotions, and (2) for pleasurable as contrasted with unpleasurable emotions respectively". Burt has also shown the existence of a certain degree of correlation between physical and mental types, a result which supports Kretschmer's conclusions.

B. PERSONALITY TRAITS

The concept of traits appears to be more profitably applied, however, if they are regarded as qualities of the personality as a

[1] For the application of this concept in the sphere of intelligence, cf. Chapter VII, Section III. [2] Cf. Chapter IX, Section IV.

whole, without reference to the level at which they originate. In this view a trait is not a psychological mechanism or structural entity, but merely a convenient means of classifying behaviour qualities, whether they are observed in only one personality or are common to many. G. W. Allport (1) defines as 'common traits' those "aspects of personality in respect of which most mature people within a given culture can be compared". When using such a definition it is unnecessary to discuss the question of the innateness of traits; for practical purposes they may simply be accepted as dispositions forming part of the personality.

Traits of this kind are not, in any strict sense, dynamic, for as dispositions they cannot initiate behaviour; but inasmuch as they must be conceived of as lowered thresholds for certain types of response, they may set up tensions within the personality which will lead the individual to seek situations suitable for their display. Thus the aggressive man will seek opportunities for imposing his will on others, and the inveterate talker an audience for his loquacity.

Lastly, since a tendency towards a certain overt quality of behaviour is our only evidence for the existence of a trait, the appearance of the same trait, even to the same degree, in two individuals, need not be due to the operation of the same psychological mechanism in each case. The loquacity of *A* may be the expression of a care-free, extraverted mentality, while that of *B* may be an over-compensation for some inner anxiety.

Personality is the expression, not of an aggregation of traits, but of their interrelationships. Complete studies of individual personalities cannot be made, therefore, merely by assessing traits; for such studies the methods of the psychiatrist or clinical psychologist, which stress the examination of psychological mechanisms, and differentiate between inherent and acquired factors, are essential. The assessment of traits is of use mainly in the study of the individual in so far as he is considered as a member of a group, and its value lies in the light thrown on the distribution of a given behaviour quality within the group.

Since a trait, though an attribute of the individual, must always be assessed relative to the group, standards of interpretation must be adjusted in accordance with the cultural differences between groups. The gesticulation which is normal in France would be evidence of excitability in England; the laugh of the normal

mill-girl would be almost diagnostic of mania in a nun; the uninhibited rage approved or tolerated in a Plantagenet baron would be condemned as outrageous in his twentieth century descendant.

C. CHARACTER TRAITS

The term ' character ' has a definite social and ethical connotation, and the so-called ' character traits ' are mainly ethical categories. For this reason they are fairly easily defined, but also by no means constant. A person who shows the trait of ' honesty ', for instance, does not show it consistently, nor to an equal extent at all times and in all situations; his behaviour in any given situation depends, not on a uniformly operative trait of ' honesty ', but on the social ethos of the group to which he belongs, and on his own individual adjustment to that group and to his immediate environment. An ' honest ' English gentleman will not cheat at cards or pick a pocket, but he may cheerfully defraud the customs or the income-tax authorities, and in certain circumstances, determined by his conventions, he may ' lie like a gentleman '; provided always that he does these things *only* in certain circumstances and in certain ways, and that his financial profits from the doing of them remain relatively small; provided, one may say, that he retains his ' amateur ' status.

This inconstancy in the display of a trait is not to be confused with inconsistency of character. The behaviour of the average man of ' character ' is inconsistent only when judged according to a logical scale of values; judged by psychological standards it may constitute a series of consistently adequate adjustments to the scale of values held at a given time by his group. Individuals whose characters are perfectly consistent if judged logically, are usually imperfectly adjusted to the group ethos.

Even if a character trait is expressed very forcibly in certain situations, it may not appear at all in other situations which might seem, at first glance, to provide opportunities for its expression. There is no reason to suppose, for example, that the Spartan boys who submitted unflinchingly to being beaten, sometimes to death, at the altars of Artemis Orthia, would submit to the drudgery required of an English school-boy working for a scholarship; more probably they would break down utterly in such, to them,

intolerable circumstances. The influence of the group upon the individual is almost unlimited, and when individuals deviate from the group ethos, the cause lies, not in the lack of a relevant ' trait ', but in the failure of personality integration, or in attitudes acquired through experience, which impede adjustment to the group. Only in this sense can the concept of character be considered as a psychological category at all.

This view is supported by the work of E. Webb (52), who inferred from a statistical study of ' character traits ' the existence of a character or ' *w* ' factor, which appears to correspond with the degree of personality integration. He describes the traits which he associates with ' *w* ' as follows :

w+	*w*−
Persistent	Fickle
Persevering	Wilfully changeable
Energetic	Inert
Tactful	Inconsiderate
Steady of mood	Mood unstable
Kind on principle	Not guided by principle
Conscientious	Unreliable

The importance of integration, or organization, of character is also stressed by the important research of H. Hartshorne and M. A. May (21), who showed that although the conduct of children, judged by the standards of adult conventions, was highly specific to the situation in which it occurred, yet a tendency for an individual showing very many ' desirable ' qualities to show any one of them more consistently than does the individual whose desirable qualities are fewer could be statistically established. The sentiments formed by the first type are, presumably, strong and firmly integrated with his personality as a whole ; he is thus very likely (though not certain) to behave in all circumstances in accordance with the group tradition. In the case of the second type, the sentiments are weaker and the personality is no doubt less firmly integrated, allowing interference by more primitive emotional tendencies and therefore rendering some aspects of conduct ethically inconsistent and unpredictable.

IV. METHODS OF ASSESSMENT

The nature of temperament and character cannot be expressed in any single figure comparable, for example, to the ' Intelligence

Quotient '.[1] Indeed they are not susceptible of any measurement as direct as that achieved by an intelligence test. The chief methods for assessing personality which are in current use may be grouped according to whether they are based upon an analysis of psycho-motor factors, verbal associative process, or intelligence test scores and behaviour during tests; upon the measurement of single traits or single 'levels' of personality; or upon the Rorschach technique.

A. PSYCHO-MOTOR FACTORS

Psycho-motor behaviour is a relatively direct and simple expression of neural function, and through the channels of muscular tension and a variety of movements it provides clues to personality. Descriptive words and phrases such as 'shifty', 'furtive-looking', 'wriggling with excitement', 'quick, nervous movements', 'statuesque calm', 'bowed with grief', show that we make use of these clues in daily life in order to assess our fellows. Attempts at systematic interpretation or measurement have often been made by psychologists, with varying success.

The most important study of this type is that by G. W. Allport and P. E. Vernon (2), who made a very large number of tests and observations on twenty-five young adults. The movements involved in reading, walking, tapping, stylus drawing, and the estimation of size, weight, and distance were analysed; dynamometric measurements of grip were taken, and writing and resting muscular tension studied. From a careful statistical examination of their results they were led to conclusions consistent with those of the psychologists who have made a descriptive approach to personality. No "general factor which directly and unambiguously underlies each and every act" could be found; instead there seemed to be general tendencies and dispositions. "There are degrees of unity in movement just as there are degrees of unity in mental life and personality" (p. 182).

Allport and Vernon worked experimentally, and with normal subjects; yet their results agree strikingly with those derived from tests of more limited scope, involving single psycho-motor phenomena, which have been applied to a wider range of subjects in clinical practice, for diagnostic purposes. The resemblance is

[1] Cf. Chapter VII, Section II.

especially close in the case of the methods which measure muscular tension, whether during muscular activity or in a resting state.

Thus E. Jacobson (25), working with psycho-neurotics and emotionally maladjusted subjects, demonstrated a relationship between general increase of muscular tension and emotional difficulties of various sorts; he even claimed to improve emotional status by education in relaxation. A. G. Bills (7), by means of an elaborate technique, measured the tension in the muscles of the hands and jaws, and the adductors of the thighs. His results indicate that an increase of tension accompanies intellectual effort, and that the increase in the various muscle groups are proportionate one to another.

Similarly, E. Duffy (14), when measuring personality differences in young children, placed a bulb dynamometer in the subject's idle hand during the performance of tasks of reaction-choice type. Her results show plainly that the subjects whose muscular tension was high, and more especially irregular, were those whom observers rated as having personality difficulties. The same children also tended to perform the experimental task less well, a fact attributed by Duffy to the greater muscular tension. This seems an unwarranted assumption, however. It is more probable that the increase in tension represents the spread of excitation in the nervous system, as part of a reaction to a situation of difficulty; in cases where the rise in tension was irregular or unduly high, the lowered efficiency in the performance of the task would therefore represent the psychological aspect of the 'over-reaction' of which the muscular tension is the physiological expression.

F. L. Golla and S. Antonovitch (19) have found that the increase in tension associated with the performance of an intellectual task actually precedes the commencement of the intellectual activity, a fact which has led them to propound the important theory that the increase is an atavistic remnant, a phylogenetic relic of a reaction preparatory to physical action.

B. Johnson (28), using a test in which the pressure exerted on a stylus employed for tapping was recorded, produced results in harmony with those already quoted. He noted four different types of pressure reaction, namely: (1) low constant pressure; (2) high and irregular pressure; (3) initial rise in pressure, followed by a steady decrease; (4) gradual increase from very low to high.

Subjects with reactions of type (1) were the most efficient in the tapping task, while those with reactions of type (2) were the least efficient, and were also found to have poorly integrated personalities.

M. Culpin and M. Smith (12) have used the McDougall-Schuster dotting apparatus to differentiate between certain personality types, and it is claimed that significant results have also been achieved with the very simple tapping test devised by Whipple and Healy (22).

A method involving both psycho-motor and associative phenomena has been devised by A. R. Luria (33). It is based on the theories of the modern Russian school, which originate in Pavlov's work and are characterized by insistence on the physiological aspects of behaviour in general and of affective process in particular. For the purpose of demonstrating emotional disturbance, Luria believes motor phenomena, both voluntary and involuntary, to be a better index of the affective state than pulse, respiration, or blood-pressure.

In Luria's experiment, the subject keeps both hands on pneumatic receptors while a series of stimulus words is read out to him by the operator. As he gives a verbal response to each word, he depresses the right-hand receptor, but he has been instructed that his left hand should remain motionless throughout. Graphic records are made of the latent period of response, the voluntary movements of the right hand, and the involuntary ones of the left; there is also a time record, and the actual stimulus and response words are noted.

By the use of verbal stimuli of varying degrees of intellectual difficulty and emotional significance for the subject, Luria was able to produce varying degrees of disorganization in the responses of different types of individuals. The delays in giving the verbal response, and the fluctuations in the involuntary tension maintained by the one hand and in the timing and force of the voluntary pressure exerted by the other, were found to vary with different subjects and with different stimuli. The ' reactive labile ' subjects exhibited these phenomena more often and to a greater degree than the ' reactive stable ', while various psychopathic types exhibited them to a high degree in practically all the experimental situations arranged. Thus some disorganization was shown by normal students just before an important examination on which their entire future depended, by murderers in custody when presented with stimuli relevant to their crimes, and by the unintelligent when faced with

any situation of intellectual difficulty; but neurotic and unstable subjects tended to show severe disorganization in every response, even when no stimulus was given.

Luria's method has been applied extensively in Russia, but it has not come into general use in other countries. Its validity in revealing the existence of unconscious emotional factors has been experimentally demonstrated by P. E. Huston, D. Shakow, and M. H. Erickson (24) in a study of hypnotically induced complexes, by means of a technique which Luria himself had also employed. C. H. Barnacle, F. G. Ebaugh, and F. Lemere (3) compared fifty neurotic patients with the same number of persons in a control group presumed to be normal. They found that the most unstable association-motor responses were, in fact, given by the subjects whose emotional instability was greatest, and conclude that the technique " has a definite though limited place in the psychiatric armamentarium ".

The method has certain disadvantages. It requires complicated and delicate apparatus, and two skilled operators are necessary; moreover, the information which it yields, though both accurate and important, comes from a limited field. Nevertheless Luria's work is a valuable contribution, and some such technique will probably play a large part in future investigations of temperament and personality.

B. VERBAL ASSOCIATIVE PROCESS

The importance of associative processes as indicators of the selective modes of reaction determined by emotional factors is very great, and an associational element enters into nearly all tests of emotional qualities, including Cattell's tests for surgency, Luria's technique, and the Rorschach method. Brief mention will be made here of methods which depend entirely upon verbal associations.

Most tests of this type are based on Jung's analysis of the associations supplied by psychiatric patients in response to selected stimulus words. Typically a list of 100 words is used, consisting mainly of ' neutral ' words (i.e. words having no known emotional significance for the subject), but including also a number of words believed to have a probable bearing on the complexes of the patient

being tested. The responses of the patient are recorded, as well as the reaction time for each response. It is found that when a word has an emotional significance for the subject he tends to give a response unusual for that particular word, and his reaction time for that response may be markedly longer than the average. For therapeutic purposes the responses which appear significant are selected, and further associations obtained; the results are useful in orienting the clinical investigation of the case.[1]

G. Kent and A. J. Rosanoff (29) produced a more general form of association test. They employed a standard list of words, without introducing words supposedly significant for a particular subject, and noted in each case the unusual associations, i.e. those which deviated from a standard list compiled by applying the test to a large number of subjects. The 'individual' responses of this type were further classified according to their nature. The method met with considerable success when it was first introduced, and although it is seldom used now, it undoubtedly aids in detecting abnormal personalities. In order to obtain valid results, however, the list of standard responses must be revised for each group with which it is used.

C. INTELLIGENCE TEST SCORES AND BEHAVIOUR

For many years psychologists engaged in clinical practice have been impressed by the possibilities of estimating temperament and character on the basis of intelligence test results. The evidence is deduced either from the distribution of the successes and failures made in various test items, or from the quality of behaviour during the test. In view of the difficulty of testing emotional qualities directly, measures of intelligence are, indeed, very much more commonly applied than any test of other, apparently more relevant, fields of personality. Although little has been written about this method, it is the one most generally used in practice for personality assessment.

The attribution of emotional significance to the distribution of test scores implies a view of intelligence as dynamic, an aspect often ignored in the orthodox psychometric approach. An exceptional range of scatter of successes or failures, whether between

[1] Cf. Chapter III, Section II, E.

the various items of the Binet scale, or between the units of a serial performance test such as the Porteus Maze, or between the results of a number of tests of different kinds, is regarded as depending to a great extent upon emotional factors. Such scatter may, therefore, be treated as symptomatic when assessing stability of personality or differentiating certain personality types and qualities.

F. Mateer (34) considered the scattering of successes and failures through four or more 'mental years' in the Binet scale to be indicative of psychopathy, and many other writers have expressed similar views. A principal difficulty in making such judgments in terms of the Binet scale is the omnibus character of the test; successes in different items depend on very different abilities, so that exactly equal amounts of scatter may occur in different cases from entirely different causes. J. Jastak (27), in a critical examination of the whole subject, considers that "actual mental variability cannot be measured by means of scattering on intelligence tests alone" (p. 6). Recently Z. Piotrowski (41) has shown, however, that it is the pattern, rather than the degree, of scattering on the Binet scale which is characteristic of emotional disturbance. He claims that, by means of his 'profile' method of scoring the test, those subjects who fail from emotional, rather than intellectual, causes can be differentiated.

More promising is the evaluation and representation in profile form of the relationships between the results of various specific tests, rather than of the items of a mixed scale such as the Binet. G. Vermeylen (49) applied a modified form of G. Rossolimo's (45) original 'psychograph' to children and to defective adults. According to the profiles obtained, he classified the subjects into stable and unstable personality types, and, further, into several sub-varieties of each type. Vermeylen describes the tests used for his psychograph as measures of certain specific abilities, 'memory', 'analytical ability', and the like. It seems more probable, however, that the emotionally unstable types tend to fail on certain tests, not because of any lack of this or that cognitive capacity, but because of their inability to concentrate, to persist in an effort, to inhibit emotionally determined, irrelevant patterns of response, or to adjust to complex situations, as well as to the neurotic's preference for verbal-symbolic processes rather than those involving practical activity. Vermeylen's method has not come into general use, no doubt largely because the

particular tests used have not been adequately standardized and are insufficiently sensitive in the upper ranges, but the approach seems promising.

R. Dellaert (13), from an examination of unstable and inferior subjects, showed that their inferiority was more marked in tests of performance than in tests of verbal type, and considers performance tests important for the assessment of social aptitudes.

Jastak (27) investigated a large number of American school-children, and discovered evidence of differences in ' level ' between vocabulary tests and tests requiring some degree of performance ability. His results indicate that grossly maladjusted children tend to obtain much higher scores in the vocabulary than in the performance tests, while normal subjects tend to have similar scores for both types. In cases of mild maladjustment the scores are somewhat irregular, but tend to be higher for performance than for vocabulary tests. These differences, Jastak holds, are due to variations in certain non-cognitive qualities which may be subsumed under the heading of ' mental control ', and depend " on those forces which control the ways of intellect rather than on its level " (p. 75). Jastak suggests, further, that the introduction of the factor of complexity of response, as distinct from intellectual difficulty, imposes a need for inhibition and control which poorly integrated personalities cannot meet, thus explaining their relatively low scores on performance tests. In a later study, Jastak (26) investigated mental patients in a similar way, demonstrating a difference between the score patterns of psychotic and non-psychotic subjects.

C. Uhler (48) studied the test score patterns of 820 school-children, and found that a disparity of 20 I.Q. points, or more, between verbal and performance test results occurred in only one out of sixteen cases. Congenital dysplasias, nervous habits, and psycho-motor peculiarities were present in over half of the cases showing such disparity. Children whose non-verbal ability was markedly superior to their verbal ability showed delinquent or aggressive behaviour; where the reverse was the case, the clinical pictures of neurosis or psychopathy were found.

In an unpublished study of adult morons, the present writer has applied a similar principle. The scores are expressed in profiles resembling those of Rossolimo and Vermeylen, but the tests employed are not designed, as were theirs, to measure definite

cognitive entities. The profile is built up by plotting the scores from two verbal and two performance tests, their means, and the total mean, the scores having been computed in terms of decile rankings within the moron group. From the shape of the resulting seven-point graph, evidence of personality type is deduced. Those subjects who show a marked preponderance of verbal ability tend to be unstable personalities, with a neurotic preference for symbols rather than realities. When the verbal scores are markedly lower than the scores on performance tests, a 'verbal neurosis', i.e. a neurotic attitude towards verbal process, which is believed to reflect early educational difficulties (15), is regarded as the cause. The nature of the emotional anomaly is, moreover, revealed to some extent by the quality of behaviour during the test.

Every clinical psychologist, after observing large numbers of subjects in standard situations, particularly those created by performance tests, becomes aware of qualitative differences in the reactions of the subjects which aid in differentiating various types of personality. In many cases the information thus obtained outweighs in importance the quantitative information obtained from the test scores themselves; it may even seem to contradict the evidence provided by the scores.

Any test is, in effect, a sample situation from which inferences may be drawn regarding the subject's behaviour in the situations of everyday life. It may be less important, from this point of view, to know the score which a subject makes than to know how he makes it, what attitude he adopts towards the test as a problem, by what method he attempts its solution, and with what degree of consistency he applies that method. His persistence, or lack of it, in situations of difficulty, his reaction to failure, signs of excitability, impulsiveness, or inhibition, and many other subtle variations of conduct, all have a bearing on significant aspects of the personality. Assessment by means of such clues has, of course, obvious disadvantages: it is non-quantitative, largely subjective, and based mainly on fleeting impressions and the rapid interpretation of momentary phenomena. The value of the data which it yields depends, therefore, almost entirely on the skill, experience, and discretion of the psychologist in relating the material observed to the analysis of the individual's temperament and character.

Mateer (34), whose evidence consists mainly of case records,

also attaches great importance to the attitudes shown by a subject during tests, to qualitative changes in responses to items in the Binet scale, and to the nature of the associations obtained by the Kent-Rosanoff association test. F. Gaw (18) describes qualitative deviations in the performance test behaviour of children, and gives detailed instructions as to points deserving of attention in this respect for several of the tests in her scale.

The present writer (16) assesses the personalities of children and unintelligent adults on the basis of behaviour during performance tests, differentiating the 'excitable', the 'integrated', and the 'inhibited', somewhat after the fashion of the Russian school. Such intellectual factors as are involved in maintaining consistency in the quality of work done, and in reacting to novel and difficult situations, are evaluated, while at the motor level the speed, co-ordination, and degree of movement are considered indicative of temperamental type. More general characteristics of personality are inferred from the general attitude adopted towards the tests, from the purposefulness of the subject's approach to the problems, and from the nature of the reaction, in so far as this can be observed, to success or failure. By combining such methods with the profile method of scoring the tests, an experienced investigator usually gains a practical knowledge of the individual's personality, with special reference to the temperamental level, which is adequate to enable him to make a clinically valid prognosis of social attitude and behaviour.

This type of procedure is seldom applicable to educated or intelligent adults, however, on account of the insufficient difficulty of the tests. The use of the very difficult Oakley Formboard with such subjects is said (38) to throw some light on temperamental factors.

E. THE MEASUREMENT OF SINGLE TRAITS

The problems raised by the definition of single traits, already referred to in Section III, are further complicated when the measurement of such traits is undertaken. Three of the principal attempts of this nature will be cited.

A battery of tests to measure persistence was devised by T. H. Howells (23), who measured the time during which the subjects submitted to various situations of steadily increasing physical

discomfort. The items included persistence in holding a dynamometer, set to half the subject's maximum grip, in spite of slowly increasing pressure by a needle on the palm of the hand and by wedges pressing upon bony eminences and soft tissues. Subjects were also offered the opportunity of taking varying chances of a severe electric shock in order to obtain a supposed increase in score on the battery as a whole.

In the main, the findings appeared to be significant. The scores correlated with ascendance in the Allport Ascendance-Submission scale to the extent of ·44, ± ·08 ; the correlation between persistence and religious radicalism, as opposed to religious orthodoxy, was ·37 ± ·08, and the multiple correlation between academic status and a combination of intelligence and persistence scores was ·64, as against ·51 for intelligence considered alone.

One difficulty in interpreting the results is due to the motivation, which was purely competitive, the subjects being students who had been told that the results of the tests would be posted in order of rank. Persistence, as a character trait, must depend to a large extent on the situation in which it is to be exercised. Subjects who are aggressive in social situations, and those who, while egocentric, are capable of good social adjustment, would probably tend to score very highly in these circumstances, whereas if a guarantee of secrecy had been given, quite different results might have been obtained.

The method of testing perseveration, or '*p*' factor, devised by J. W. Pinard (40) and modified by Cattell (11) and W. Stephenson (47), is one of the best known. The tests employed vary slightly from one worker to another, but are all based on the same principle. The subject is required to engage in some activity and then to change suddenly to one of an opposite type, perseveration being presumed to interfere with the efficiency of the new activity. A subject may, for instance, be asked to write the capital letter '*S*' in rows for 30 seconds, then to reverse the letter for a further 30 seconds, then to alternate the normal and reversed forms. Some of the tests involve writing '*A*', '*B*', '*C*', '*D*', as the first activity and '*a*', '*b*', '*c*', '*d*', as the second, others the drawing of small triangles, at first base downwards and then base upwards. The perseveration score is calculated either by dividing the amount done on the first activity by the amount done on the second, or by subtracting the latter from the former.

The method has, up to the present, given conflicting results, and their statistical consistency and validity are not high. It seems fairly certain, however, that both very high and very low '*p*' scores are symptomatic of personality difficulties, high '*p*' scores being generally associated with introversion and low with extraversion. Factorial psychologists refer to tests of '*p*' mainly as indicators of character integration, and in so far as these tests are satisfactory measures they undoubtedly do give information about character. The great difficulty of the subject may be illustrated, however, by pointing out that perseveration is directly dependent on a simple quality of neural function, and therefore essentially a temperamental quality.

Other measures of persistence which, from their different nature and motivation, make demands upon somewhat different aspects of the personality, have been used by Hartshorne and May (20). These investigators set children to do exceedingly difficult puzzles, the score being determined by the length of time during which the subject persisted in his almost hopeless task. J. B. Morgan and H. L. Hull (37) have worked with a semi-concealed maze problem which is, in fact, insoluble.

Related to these methods is the Kinetic Will Test of G. Fernald (17), who made his subjects stand on tiptoe, facing a dial which recorded the height of the heels from the floor. The method differentiated very clearly between the reformatory prisoners and manual training college students to whom it was applied in America, the median times for the groups being 15 minutes and 36 minutes respectively. A. F. Bronner(8) obtained similar results by measuring the time during which the subject could hold heavy dumb-bells when the arms were extended level with the shoulder. Here what is measured would seem to be primarily self-respect and pride in endurance, although the element of physical ability to withstand fatigue may enter also.[1]

[1] That the physical factor plays a very small part is, however, suggested by the reactions of two neurotic boys who were given the dynamometer test from Howells' persistence battery by the writer. One of the lads was very unintelligent, something of an athlete, and proud of his physical ability; the other was highly intelligent, a fine sprinter and jumper, but of a submissive type, and obviously neurotic. The first maintained half his maximum grip for 1 minute 58 seconds, the other maintained his for 22 seconds only. Both boys were made to repeat the test in deep hypnosis, after being given the suggestion that they would feel no pain or discomfort

F. THE MEASUREMENT OF SINGLE 'LEVELS' OF PERSONALITY

Most of the attempts to measure some level of the personality singly are of the questionnaire type dealt with in Chapter IX. A measure of a more general kind has, however, been used by Cattell (11) in the assessment of temperament. Cattell's factor of surgency, or '*c*' factor, correlates highly with the factor of 'fluency of association', or '*f*' factor, postulated by E. Bernstein (6). Cattell has devised a series of tests for fluency, and has standardized it on a large number of subjects. The tests include such items as the interpretation of blots, the completion of forms, and directed verbal associations. The results are partly influenced by the subject's general intellectual level, and should be interpreted in the light of his intelligence test score.

Many of the tests used by Hartshorne and May (21) in their investigations of character in childhood were of a performance nature, and properly designated as tests of character. They included many ingenious tests of the 'miniature situation' type, in which tasks were set which allowed the subjects opportunities to cheat without apparent danger of detection, although detection was, nevertheless, quite certain. The technique affords a valuable means of assessing 'honesty' in different situations, involving a variety of motives.

Other tests in the Hartshorne and May battery attempted to measure such character traits as 'generosity' and 'service to others'. Generosity, for example, was assessed by giving children small presents and providing opportunities for them to pass on all, or a part, of these to charity. The tests were found to be highly specific, and a general trend towards social adaptation or character integration could be deduced only by the use of a large battery, expensive both in time and money.

G. THE RORSCHACH METHOD

The most efficient of the methods of assessing personality as a whole which have hitherto been evolved is the Rorschach

in the hand or arm. The neurotic boy's score rose to 50 seconds, while that of the first remained almost stationary. In both cases the fluctuation of grip strength which ordinarily occurs as the subject tires was absent; instead, the dynamometer pointer remained steady until within a couple of seconds of its sudden fall to zero.

technique (44). It consists in the analysis of the verbal interpretations given by subjects to a series of ten ink-blots, five of which introduce an element of colour. The interpretations are numbered, and classified into several categories, according to various factors:

(1) *The stimulus selected:* whether the whole blot, some detail, or peculiar details, etc.

(2) *The determinant and quality of the response:* whether dependent mainly on form, movement, colour, or chiaroscuro; also, whether the form content is 'good' or otherwise.

(3) *The content of the response:* the nature of what is seen, whether human figures or animals, etc.

In addition to classifying the individual responses in this way, the following general features are scored:

(*a*) The relationship between responses to the blot as a whole and those to various types of detail.

(*b*) The order in which the various types of responses to each blot occur.

(*c*) The relationship between responses involving interpretation in terms of movement and those determined by colour.

(*d*) The percentage of responses involving animal figures, and of responses whose form content is 'good'.

In a brief account it is impossible to give an adequate idea of the test or its theoretical basis. It is essential to realize, however, that the method is *par excellence* the product of a psychology of personality which regards all psychical activity as interdependent, and is, therefore, the very antithesis of any theory of unitary traits.

As an illustration we may cite the mode of interpreting responses under the heading (*c*), which is important to the general theory. Responses involving movement indicate inner mental creative activity; responses to colour indicate the nature of the affect, not as it exists potentially, but as it finds expression. The relation between these two, the *Erlebnistypus* or 'experience-balance', indicates the capacity for 'psychical experiencing'. Thus the direction given to the inner creativity indicated by the movement response is determined by the strength and importance of the affect indicated by the colour element. If this latter is high the subject is said to be 'extratensive', tending to exteriorize his affect and therewith his phantasy activity; if it is low the inner creativity, though it may be active, is regarded as repressed. The nature of the

affective expression depends further on the relationship between responses to form and those to colour, and so on. Finally, the value of any item in the ' psychogram ' for the prediction of behaviour, or for the assessment of personality as a whole, depends on the relationship of the various categories in the psychogram, not only to each other, but to the psychogram as a whole.

Since the method is very flexible, and requires much skill, it has given rise both to extravagant claims and to utter condemnation, and to approach it as though one were dealing with a more objective, statistically standardized method is to court disaster. But even when its many limitations are admitted, it remains, in skilled hands, the best single method available for the investigation of personality.[1]

V. CONCLUSION

None of the tests or methods which have been described can be considered entirely satisfactory. The validity of all tests depends, in the ultimate analysis, upon the comparability of the behaviour shown in the miniature situation of the test with that which takes place in the much more complex social setting of real life. The methods which have had the greatest success in practice, i.e. the interpretation of intelligence test scores and behaviour, and the Rorschach technique, assess temperament, character, and personality in terms of general tendencies rather than of specific reactions. Yet, through the very lack of specificity which is chiefly responsible for their superiority to other methods, they are subject to wide differences in interpretation. Their value depends on the skill and experience of the individual tester, and statistically they cannot be adequately validated. The Rorschach method, in particular, is an art rather than a science; the brilliant insight into personality which it affords is almost impossible to analyse into categories, or even to communicate.

Objectivity can be approached only with those tests which measure

[1] Cf. (51). Benjamin and Ebaugh (5) have shown that there is a very high degree of correspondence between diagnoses reached by full psychiatric investigation and those reached by applying the Rorschach test alone. Beck (4), Klopfer (30), and Piotrowski (42) have made important contributions to the technique of the method, and Piotrowski has demonstrated its value for the diagnosis of organic brain lesions.

a specific reaction in a specifically standardized situation ; but this specificity limits the significance of the test as an indicator of the probable reactivity of the total organism. Such tests make a distinct contribution when they are applied to certain problems, however, and provided that enough is known about the motivation of the specific reaction measured, and that difficulties of time and expense can be satisfactorily overcome, they may be definitely recommended.

In view of the objections which can be levelled at either type of test, the brightest future perhaps awaits the techniques based on Luria's method, which are objective and physiologically based, yet in their essence indicative of general tendencies of the organism rather than of any specific reaction. Whatever methods are used at the present time, their success may be said to depend largely on the restraint with which the evidence obtained is related to all the other data available about the individual.

REFERENCES

(1) Allport, G. W., *Personality : A Psychological Interpretation.* New York : Holt, 1937. pp. 588.
(2) Allport, G. W., and Vernon, P. E., *Studies in Expressive Movement.* New York : Macmillan, 1933. pp. 269.
(3) Barnacle, C. H., Ebaugh, F. G., and Lemere, F., " Association-motor investigation of the psychoneuroses," *Amer. J. Psychiat.*, 1935, xci, 925–937.
(4) Beck, S. J., " Introduction to the Rorschach method," *Amer. Orthopsychiat. Ass. Res. Monog.*, No. 1, 1937. pp. 278.
(5) Benjamin, J. D., and Ebaugh, F. G., " The diagnostic validity of the Rorschach method," *Amer. J. Psychiat.*, 1938, xciv, 1163–1176.
(6) Bernstein, E., " Quickness and intelligence," *Brit. J. Psychol. Monog. Suppl.*, No. 3, 1915. pp. 99.
(7) Bills, A. G., " The influence of muscular tension on the efficiency of mental work," *Amer. J. Psychol.*, 1927, xxxviii, 227–251.
(8) Bronner, A. F., " A comparative study of the intelligence of delinquent girls," *Columbia Univ. Teach. Coll. Contr. Educ.*, 1914, No. 68. pp. 95.
(9) Burt, C., " Analysis of temperament," *Brit. J. Med. Psychol.*, 1938, xvii, 158–188.
(10) Cattell, R. B., *A Guide to Mental Testing.* London University Press, 1936. pp. 312.
(11) Cattell, R. B., " Temperament tests," *Brit. J. Psychol.*, 1933, xxiii, 308–329 ; xxiv, 20–49.
(12) Culpin, M., and Smith, M., " The nervous temperament," *Rep. Industr. Hlth. Res. Bd.*, No. 61. London : H.M. Stationery Office, 1930. pp. 46.

(13) Dellaert, R., " L'intelligence des anormaux du caractère," *L'Année Psychol.*, 1934, xxxiv, 200-216.
(14) Duffy, E., " The measurement of muscular tension as a technique for the study of emotional tendencies," *Amer. J. Psychol.*, 1932, xliv, 146–162.
(15) Earl, C. J. C., " Intellectual defect as a factor in juvenile delinquency," *I Congr. Intern. de Psychiat. Infantile, Rapports de Psychiat. Juridique*, 1937, 147–156.
(16) Earl, C. J. C., " The performance test behaviour of adult morons," *Brit. J. Med. Psychol.*, 1937, xv, 78–92.
(17) Fernald, G., " An achievement capacity test," *J. Educ. Psychol.*, 1912, iii, 331–6.
(18) Gaw, F., " Performance tests of intelligence," *Rep. Industr. Fatigue Res. Board*, No. 31. London : H.M. Stationery Office, 1925. pp. 48.
(19) Golla, F. L., and Antonovitch, S., " The relationship of muscular tonus and the patellar reflex to mental work," *J. Ment. Sci.*, 1929, lxxv, 234–241.
(20) Hartshorne, H., and May, M. A., *Studies in Service and Self Control.* New York : Macmillan, 1929. pp. 559.
(21) Hartshorne, H., May, M. A., and Shuttleworth, F. R., *Studies in the Organization of Character.* New York : Macmillan.
(22) Hewes, A., *et al.*, " Standardization of the Whipple-Healy tapping test," *J. App. Psychol.*, 1922, vi, 113–19.
(23) Howells, T. H., " An experimental study of persistence," *J. Abn. Soc. Psychol.*, 1933, xxviii, 1, 14–29.
(24) Huston, P. E., Shakow, D., and Erickson, M. H., " An experimental study of hypnotically induced complexes," *Psychol. Bull.*, 1933, xxx, 738.
(25) Jacobson, E., *Progressive Relaxation.* Chicago University Press, 1929. pp. 441.
(26) Jastak, J., " Psychometric patterns of state hospital patients," *Delaware State Med. J.*, 1937, ix, 7–10.
(27) Jastak, J., *Variability of Psychometric Per ormances in Mental Diagnosis.* New York, 1934. pp. 99.
(28) Johnson, B., " Changes in muscular tension in coördinated hand movements," *J. Exp. Psychol.*, 1928, xi, 5, 329–341.
(29) Kent, G., and Rosanoff, A. J., " A study of association in insanity," *Amer. J. Insan.*, 1910, lxvii, 37–96, 317–390.
(30) Klopfer, B., and Sender, S., " A system of refined scoring symbols," *Rorschach Res. Exch.*, 1936, i, 19–23.
(31) Kretschmer, E., *Physique and Character* (trans. W. J. H. Sprott), 2nd ed. London : Kegan Paul, 1936. pp. 282.
(32) Kretschmer, E., *Textbook of Medical Psychology*, 4th ed. London : Oxford University Press, 1934. pp. 224.
(33) Luria, A. R., *The Nature of Human Conflicts.* New York : Liveright, 1932. pp. 431.
(34) Mateer, F., *The Unstable Child.* New York : Appleton, 1924. pp. 471.
(35) McDougall, W., *An Outline of Psychology*, 5th ed. London : Methuen, 1931. pp. 456.

(36) Mohr, G. J., and Gundlach, R. H., " The relation between physique and performance," *J. Exp. Psychol.*, 1927, x, 117–157.
(37) Morgan, J. B., and Hull, H. L., " The measurement of persistence," *J. Appl. Psychol.*, 1926, x, 180–7.
(38) Oakley, C. A., " A new form-board," *Human Factor*, 1935, ix, 105–108.
(39) Parker, B., " The psychograph of Rossolimo," *Amer. J. Insan.*, 1916, lxxiii, 273–293.
(40) Pinard, J. W., " Tests of perseveration," *Brit. J. Psychol.*, 1932, xxiii, 5–19, 114–126.
(41) Piotrowski, Z., " Objective signs of invalidity of Stanford-Binet tests," *Psychiat. Quart.*, 1937, xi, 623–636.
(42) Piotrowski, Z., " On the Rorschach method and its application to organic disturbances of the central nervous system," *Rorschach Res. Exch.*, 1936, i, 23 ff.
(43) Roback, A. A., *The Psychology of Character*. New York: Harcourt, Brace, 1927. pp. 595.
(44) Rorschach, H., *Psychodiagnostik : Methodik und Ergebnisse eines wahrnehmungsdiagnostischen Experiments*, 2nd ed. Berne : Huber, 1932. pp. 230.
(45) Rossolimo, G., " Die psychologische Profile," *Klin. f. psychische u. nerv. Krankheit.*, 1911, vi, 249–294, 295–326.
(46) Stagner, R., *Psychology of Personality*. New York : McGraw-Hill, 1937. pp. 465.
(47) Stephenson, W., " Studies in experimental psychiatry : II. Some contact of *p*-factor with psychiatry," *J. Ment. Sci.*, 1932, lxxviii, 1, 315–330.
(48) Uhler, C., " Wide span psychometric patterns," *Delaware State Med. J.*, 1937, ix, 1–6.
(49) Vermeylen, G., " Les débiles mentaux (étude expérimentale et clinique)," *Bull. de l'Inst. Gén. Psychol.*, 1922, Nos. 4–6.
(50) Vernon, P. E., " The American and the German methods of approach to the study of temperament and personality," *Brit. J. Psychol.*, 1933, xxiv, 156–177.
(51) Vernon, P. E., " The Rorschach ink-blot test," *Brit. J. Med. Psychol.*, 1933, xiii, 89–118, 179–200, 271–291.
(52) Webb, E., " Character and intelligence," *Brit. J. Psychol. Monog. Suppl.*, No. 3, 1915, i. pp. 99.
(53) Wertheimer, F. J., and Hesketh, F. E., " Significance of the physical constitution in mental disease," *Medicine*, 1926, v, 375–461.

Chapter XI

THE WORK OF THE VOCATIONAL ADVISER

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I. THE PROBLEMS OF THE VOCATIONAL ADVISER

Vocational psychologists concern themselves with the application of psychological knowledge to the problems of vocational guidance and vocational selection; that is, on the one hand, to the problem of advising individuals on their own fitness for various occupations and, on the other, to the problem of advising employers, or vocational training institutions, on the relative merits of various candidates for employment, promotion, or training. Vocational guidance work and vocational selection work have much in common. They have a similar objective, in that each deals with the problem of planning for occupational success; they have a similar procedure, in that each usually involves the use of tests, questionnaires, and interviews.

There is, however, a marked difference in objective. In vocational guidance work, primary consideration is usually given to the satisfaction of the individual; in vocational selection work the emphasis tends to be on the satisfaction of the employer or training institution. There is also a striking difference in procedure, which has its root in the difference in objective. In most vocational guidance work, it is found reasonable to expect individuals seeking advice to be fairly candid about many matters, e.g., their ambitions and shortcomings; in vocational selection work, expectations of this kind cannot reasonably be entertained. Consequently, some inquiries which appear appropriate in the friendly atmosphere of the vocational adviser's consulting room may seem out of place in the somewhat chillier office of the vocational selector.

This chapter is concerned largely with the work of the vocational adviser. His problems are, on the whole, more difficult than those

of the vocational selector, because it is his business not merely to accept or reject a candidate for a certain occupation, but to consider an individual's fitness for a large number of occupations. Furthermore, many of those who seek his aid are maladjusted young people and adults who are not likely to be regarded with marked favour by any employer or training institution.

The vocational adviser has four aims. His first is to collect, from every available source, data relevant to the vocational problem of the individual with whom he is concerned. Like the psychopathologist and the social worker, he expects and seeks assistance from all who are in a position to help him in his task of building up a sound body of fact and opinion about his subject. His second aim is to impart relevant information about occupations to his subject, since many of the notions widely held, particularly by young people, about occupational requirements and opportunities are either inadequate or inaccurate. His third aim is to interpret all the data available about his subject in the light of his own knowledge of occupational requirements and opportunities, and to formulate suggestions. His fourth aim is to persuade his subject to accept, or, in certain cases, to confirm, what appears to be a desirable course of action. It is this last task which determines the principle differences between the vocational adviser's technique and the technique of investigators who are concerned largely or solely with the observation and recording of facts and opinions.

In practice, these four aims are not always dealt with in the convenient order in which they have been stated here.

II. THE DATA INVESTIGATED BY THE VOCATIONAL ADVISER

The giving of vocational guidance involves a study of individuals and a study of occupations. Before offering advice the adviser should, ideally, have before him a detailed statement about the circumstances and characteristics of the subject, together with detailed statements about the circumstances involved, and characteristics required, in every occupation available. Clearly, both the subject and the occupations must be studied according to the same plan and described in the same terms.

A useful plan can be evolved through a general investigation of causes of occupational failure, which are reasonably classifiable under seven headings. In the first place, some individuals fail because they are the victims of unfortunate circumstances rather than because they possess inappropriate personal characteristics; e.g., those whose training and experience are rendered comparatively valueless by a scientific invention which throws the trade they have learned almost out of existence, and those whose work is supervised by people who are themselves unfitted for their posts. Secondly, some fail because of the presence in them of a physical disability of occupational significance, e.g., valvular disease of the heart or impaired hearing. Thirdly, some fail because they possess either too little or too much general intelligence for their work. Fourthly, some fail because of the lack of an important special aptitude, e.g., mechanical aptitude or manual dexterity. Fifthly, some fail because of an insufficiency of attainment in an occupationally significant field; e.g., the intelligent, fluent, and forceful young woman journalist whose poor spelling makes it impossible for her to retain a post for more than a few weeks. Sixthly, some fail because of lack of interest in their occupation, or because competing interests are allowed too much play. Finally, some fail because of unsuitability of disposition; e.g., the shy, solitary, gloomy girl who cannot make a success of teaching, and the cheerful, companionable girl who cannot find sufficient outlet for her social interests in clerical work.

These seven headings provide a fairly comprehensive plan for the study both of individuals and of occupations which the giving of vocational guidance necessitates.[1] The adviser endeavours, before formulating advice, to make a comprehensive survey of the financial, social, geographical, and other circumstances, the physical characteristics, the level of general intelligence, the special aptitudes, the attainments, the interests and the disposition of his subject, and to compare this with the reports he has available about the circumstances involved in various occupations and about the demands they make in regard to physical characteristics, general intelligence, special aptitudes, attainments, interests and disposition.

[1] This seven-point plan has, of course, other uses, e.g., in the study of unexpectedly poor results in psychological tests or scholastic examinations, in the study of compensations for occupational unfitness, and in the study of causes of delinquencies.

The study of occupations is, of course, an essential part of the vocational adviser's work, and although much remains to be done in this field, much has already been accomplished. In his study of the individual, the vocational adviser's data are fundamentally similar to those of the psychopathologist and the social worker.[1]

III. THE TECHNIQUE OF THE VOCATIONAL ADVISER

A. COLLECTING DATA ABOUT THE SUBJECT

It has been pointed out that the vocational adviser begins his work by collecting relevant data about the individual who seeks advice. The main sources of the facts and opinions he wishes to obtain are usually (1) the parents, (2) the school authorities, (3) the subject's medical attendant, and (4) the subject himself.[2]

1. *The Parents' Contribution*

The parents are in most cases asked to complete a questionnaire which deals not only with the subject's circumstances and characteristics, but also with their own financial, social, and other circumstances, with the occupations of all the members of the family, with marked family interests, and with significant matters arising from the family health records. The completed questionnaire usually forms the basis for a short interview between the parents and the adviser. In the course of conversation, the impressions the adviser has gained from the questionnaire are often markedly increased in scope, and are sometimes greatly altered. The parents' own vocational suggestions are, of course, discussed.

2. *The School's Contribution*

The subject's ordinary end-of-term school reports are studied, if they are available. But these are often found to be conventional in form and characterized by vagueness, or by a cautious reserve which is not altogether helpful to the adviser, and they are therefore frequently supplemented by information entered by the

[1] See Chapters III and XV.

[2] Different vocational guidance organizations do, of course, employ different techniques. But the variations between them are not, on the whole, very great. The procedure described here is essentially that of the National Institute of Industrial Psychology, London.

teachers on school report forms specially devised for vocational guidance purposes. The questions on the special forms relate not only to the subject's attainments in school, but also to his out-of-school interests and to his disposition. Vocational suggestions are invited as well. A certain number of schools are able to help the adviser by producing cumulative record cards or school-leaving cards for his inspection.

3. *The Doctor's Contribution*

Up-to-date medical reports are not always available, and the adviser does not often insist on having them, for insistence on this point would undoubtedly deter many from seeking his services. He is sometimes able to surmount the obstacle by stating explicitly in his final report that certain of his suggestions are made subject to medical approval. When special reports are obtainable, doctors are asked to express their findings in occupational terms. It is pointed out that a comment to the effect that an individual suffers from *petit mal*, for example, is less useful to most vocational advisers than a warning that he should be told to avoid occupations which necessitate, say, climbing ladders.

4. *The Subject's Contribution*

The subject is usually expected to contribute to the collection of information about himself by (*a*) undergoing tests, (*b*) completing questionnaires, and (*c*) taking part in an interview.

(*a*) *The Use of Tests*

The majority of tests employed in vocational guidance work are directed towards the investigation of general intelligence and certain special aptitudes, e.g., mechanical aptitude. Few are used in the study of interests and disposition from the vocational guidance point of view, because many advisers consider that the validity and reliability of most of the tests at present available for these characteristics are too low to justify, except for research purposes, the expenditure of the time involved in their administration, scoring, and interpretation. Tests of all kinds are used with discretion by the experienced adviser. They are regarded merely as very valuable supplements to commoner sources of information.

(*b*) *The Use of Questionnaires*

Questionnaires directed towards the study of interests and disposition are frequently employed by the vocational adviser, but in most cases only as aids to the interview. A completed interest questionnaire provides a very serviceable basis for a discussion on the nature, extent, and origins of an individual's interests. A completed disposition questionnaire provides an equally useful foundation for a discussion on his attitude towards himself and other people, his leisure activities, and his work.

(*c*) *The Interview*

(i) The General Approach

A vocational guidance interview is often conducted by one adviser, but not uncommonly two or more advisers sit together. Each method has its advantages and its disadvantages. The former, which is the one usually adopted by psychologists, is undoubtedly more conducive to frankness, but it affords the interviewer very limited opportunities for checking his observations ; the latter supplies this want at the expense of the frankness. The conduct of an interview by a small group of interviewers is probably more valuable in vocational selection work than in vocational guidance. The adviser who is anxious to benefit from a second opinion can often arrange for his subject to have a further interview with one of his colleagues.

The interviewing technique is almost invariably flexible rather than rigid ; the advocacy of rigidity by a few psychologists appears to be founded partly on the mistaken assumption that the standardization of the external conditions of an interview necessarily involves the standardization of all the conditions, and partly on a desire to collect research material which is not difficult to treat statistically. It is clear, however, that the interview must be planned in such a way that no important topic is omitted.

The interviewer's manner presents an appearance of informality, but, in being informal, he avoids undue ' heartiness ' (4). He begins his interview with the discussion of topics, e.g., hobbies or school successes, which are likely to afford a certain degree of pleasure to the subject. Matters which are likely to be distasteful are tackled at a later stage, but care is taken not to end the interview on such a topic. The subject is encouraged to do most of the

talking, even if his conversation is not always relevant. The interview is not allowed to degenerate into a hurried 'business-like' inquisition.

(ii) Formulating Questions

The interviewer's questions, like his manner, have an air of informality, but he phrases them judiciously. He refrains from using words which are not likely to be understood. He avoids questions having high suggestive value, such as "You wouldn't like office work, would you?" unless they can be justified [1]; he avoids questions designed to expose inconsistencies in the subject's statements; and he avoids unsympathetic questions which are likely to give offence by not taking account of the subject's point of view. Thus, as C. Burt (3) has pointed out, "Do your brothers tease you very much?" is a better question than, "Do you tend to get angry with your brothers?" since the boy is probably inclined to think more of his brothers' provocative acts than of his own angry responses. The adviser is necessarily cautious in inflecting his voice.

He makes considerable use of indirect questions, particularly when dealing with matters, such as family relationships, on which reserve or evasion may be expected; e.g., an answer to the question, "What do you think of your young brother?" may often be most satisfactorily obtained by asking, instead, "Are you and your young brother very different in some ways?" This is particularly true when a marked degree of conflict exists between the people concerned. The adviser uses, also, direct questions based on the same plan. The investigation of interests, especially, is greatly facilitated by the presentation of two interests for comparison; e.g., "Do you prefer practical constructional hobbies to reading, or not?" [2] Many of his questions are intentionally colourless and incomplete; e.g., "What about engineering?" He avoids questions which force the subject to take up, at an early stage in the interview, an attitude which he may later wish to discard.

The adviser introduces the discussion of occupations by asking the subject for his own suggestions, since this usually provides the

[1] A justifiable use of questions of high suggestive value is mentioned in Section III, A.

[2] Useful experiments in paired comparisons are reported by Peterson and Thurstone (5).

most tactful approach. He asks the subject what he thinks he would do if he had an entirely free choice ; what he thinks he would like to choose from among fairly definite possibilities which he may have in mind ; and what he thinks he is *likely* to do. The adviser elicits some ' reasons ' for the answers, going over the pros and cons of the various proposals with the subject, and drawing attention to the advantages and disadvantages of the occupations considered. He endeavours, in dealing with most secondary school boys and girls, to forestall the stock objections to office employment, since most secondary school leavers do, in fact, go into offices ; and, in dealing with elementary school children, he forestalls objections to manual occupations, since most elementary school children take up work of a manual kind.

(iii) Avoiding Moralizing and Criticizing

The adviser is careful, however, not to spoil the ' drawing out ' part of the interview by inappropriate moralizing or by making unnecessary criticisms, whether by word, look, or gesture. In these matters he tries to avoid the pitfalls into which inexperienced investigators tend to drop, and which detract considerably from the value of many, possibly most, of the conferences arranged by juvenile employment officers for elementary school children. Frequently the employment officers' questions and statements at such conferences are above reproach, but, just as frequently, those of head teachers and lay members of advisory committees are open to serious objection. Few seem to be able to resist the temptation which such occasions offer for the delivery of homilies ; e.g., " Of course, you will have to attend evening classes. Nobody ever got on who didn't make up his mind to study hard," or, " You can't expect us to help you if you won't help yourself, do you see ? "

Teachers who take up vocational guidance work are often apt to strain at the leash in these matters, for one seldom finds combined in the same person the attitude of quiet observation which the adviser must cultivate and the didactic attitude to which the schoolmaster and schoolmistress have become accustomed. The difficulty is encountered even in the administration of tests (1). One elementary school-teacher, reporting on some practice she had had in the giving of a certain ' performance ' test of intelligence,

remarked, " The girl went wrong in the first row and again in the second. When she began to do the third row wrongly I felt I really *had* to speak to her about it." Another, giving the same test to a boy, observed an unorthodox beginning and, instead of watching carefully to see what happened, said, " That's not what I told you to do. What *did* I tell you to do ? "

(iv) The Record Form

The adviser ensures that his interview deals with as many relevant facts as possible by making use of a carefully prepared record form ; but, like the psychopathologist and the social worker, he does not allow his plan to determine too rigidly the order in which the various relevant topics are discussed. His record form is sometimes divided into sections, corresponding to the seven groups of facts and opinions described above.[1] The section on interests may be further divided, and space allowed for notes on intellectual interests, e.g., reading and writing ; practical and active interests, e.g., woodwork and football ; and social interests, e.g., parties and clubs. This threefold classification of interests is particularly valuable in vocational guidance work, since occupations can be grouped roughly according to the same plan.

In his study of the subject's disposition, the adviser gives special attention to the individual's attitude towards other people, e.g., his friendliness and his forcefulness ; to his attitude towards himself, e.g., his confidence ; and to his attitude towards his work and leisure activities, e.g., his thoroughness and his persistence ; since these appear to be key factors in the determination of occupational success and failure. He watches carefully for indications of ' compensatory ' interests and disposition characteristics.

(v) The Use of Rating-Scales

The interviewer frequently makes use of rating-scales. These are often employed only for the purpose of recording judgments about a subject's disposition. They can, however, be used equally well for expressing judgments relating to the other six groups of facts and opinions investigated. Rating-scales do not in any way

[1] Section II.

guarantee accuracy of estimation, but, because they encourage a thoughtful analysis of the data, they are conducive to it (2).

In the construction of a rating-scale for vocational guidance, the adviser has in mind six important points. First, he selects a small number of characteristics, perhaps a dozen, for rating, knowing that lengthy lists tend to invite hasty and superficial judgment. Secondly, he selects items of general occupational significance; e.g., physique, smartness of bearing, pleasantness of voice, calmness. There is little to be gained by including other characteristics, such as a sense of humour, which, however interesting in themselves, cannot usually help the adviser materially in the determination of an individual's suitability for one occupation rather than for another. Thirdly, he selects characteristics which appear to be reasonably independent of one another. The inclusion of, for example, both friendliness and sympathy in a rating-scale would lead to difficulties, since it would be hard for most people to differentiate satisfactorily between them. Fourthly, with the aid of specific examples of behaviour, the adviser defines as clearly as he can the characteristics to be rated. The use of the term 'sociability' has been found to result in confusion, unless a fairly clear definition is provided. Fifthly, he selects items which are usually rateable without serious difficulty. For example, the inclusion of 'insight' would be open to objection because, even if a clear definition of this characteristic were provided, the investigation of it might be fraught with insurmountable obstacles. Finally, he limits the number of possible ratings of a characteristic. Usually a five-point scale, described in such terms as 'much above average', 'above average,' 'average,' 'below average,' 'much below average,' is sufficient for his purpose; for he considers that until his knowledge of occupational requirements is more detailed than it is at present, any greater degree of refinement in quantitative estimates of the circumstances and personal characteristics of the individuals who seek his advice is unwarranted.

In making use of a rating-scale constructed according to these principles, the vocational adviser pays attention to six other important points. First, he bases his judgments in each case on a criterion defined as clearly as possible, e.g., the general population, the population composed of thirteen-year-old elementary school children, the adolescent population, the adolescent population

attending secondary schools in general, or the adolescent population attending a particular secondary school. Secondly, he endeavours to distribute his ratings in a statistically satisfactory way (cf. Chapter IX, Section IV, F). Thirdly, he bases his judgment on a consideration of apparent rather than 'suspected' characteristics. He finds, for example, that a rating of calmness under pressure is on the whole more satisfactorily based on a study of an individual's external appearance of calmness in such circumstances than on any conclusions drawn about his inward state. Fourthly, he bases his judgment on a consideration of present rather than probable future characteristics. Thus his rating of an individual's cheerfulness is based on an estimate of his present degree of cheerfulness rather than on any speculation about his probable degree of cheerfulness after spending a few years in a suitable occupation. Fifthly, he annotates his ratings descriptively. For example, in addition to rating his subject for pleasantness of facial appearance, he enters a brief description on his record form. Sixthly, he supplements his ratings and descriptive comments by notes on characteristics, such as a sense of humour, not included in the rating-scale, which may be possessed by the subject or which may be noticeably absent.

The fifth and sixth points are important because, while rating-scales are extremely valuable in stimulating purposefulness and care in interviewing, and in providing the interviewer with a convenient terminology, they can hardly be said to be adequate substitutes for 'pen pictures'. The experienced adviser tends to employ rating-scales only to a limited extent, though he is fully convinced of their usefulness in his training and research work.

(vi) Note-Taking

The adviser exercises care about taking notes during the interview itself. In the course of interviews with elementary school leavers he usually makes few notes; with most adolescents and adults he can be less restrained. There appears to be a fairly high correlation between the extent to which the subject will tolerate note-taking and the extent to which he feels himself to be in need of advice. Like the psychopathologist and the social worker, the vocational adviser jots down words and symbols as frequently as discretion permits. He finds it desirable to have a record of many of the actual words and phrases used by his subject, and to keep these clearly

separated from his own observations. He makes notes on the subject's general manner throughout the interview, and on the manner in which he deals with specific topics.

The adviser avoids copious and slow note-taking, however, since these induce boredom in the subject. He puts his pen down and avoids taking notes at all while secrets are being revealed ; he finds it comparatively easy to switch the conversation back after a few minutes to some topic, e.g., proficiency in mathematics, which has already been discussed, and to make brief notes on the revelations while the subject is under the impression that the notes concern the mathematics. The adviser should not fail to study his own habits of thinking in so far as they affect the remembering of material involved in such interviews.

Notes on what appear to have been manifestations of aptitudes, interests, and disposition characteristics in the past are also important. Since vocational guidance necessarily involves the making of forecasts, it is important that the adviser should be in a position to reach satisfactory conclusions about the trends of his subject's development.

B. PROVIDING THE SUBJECT WITH RELEVANT OCCUPATIONAL INFORMATION

The second aim of the vocational adviser is usually tackled, as has already been indicated, during the interview itself. Inaccurate information about occupational requirements and opportunities is corrected, and inadequate information supplemented. But the adviser rarely has time to deal with the matter in detail in the course of conversation ; not infrequently he refers his subject to other sources of knowledge, providing him with the names and addresses of employment agencies and of academic, professional, and trade organizations, as well as with references to useful books, pamphlets, and periodicals.

C. FORMULATING OR CONFIRMING OCCUPATIONAL SUGGESTIONS

Attention has been drawn to the threefold classification of interests, into intellectual, practical and active, and social, which is

employed by many vocational advisers, and to the fact that this classification may also be used in the study of occupations. In the predominantly intellectual, or clerical, group are listed such occupations as chartered accountancy, librarianship, and the many kinds of clerical work to be found in central and local government offices, in banks and insurance companies. In the practical and active group are included such occupations as engineering, surveying, surgery, carpentry, cooking, and agriculture. In the social group are those occupations, such as salesmanship, school teaching, and hotel management, in which success depends to a considerable extent on facility in handling people.

The adviser aims at drawing general conclusions, usually by a process of elimination, about the group or groups of occupations which seem most suitable in any particular case. But he is constantly on his guard against any tendency to fit his subjects too readily into occupational or other 'types', for he realizes that too great a concern for the discovery of representatives of types may easily lead to a disregard of important individual differences, and that people of very different characteristics are to be found in most occupations. Occasionally his conclusions merely confirm suggestions made by the subject; indeed, an already awakened occupational interest, if accompanied by ability, must clearly be regarded as of considerable importance in the determination of the choice of a career.

D. PERSUADING THE SUBJECT TO ACCEPT SUGGESTIONS

The adviser's task of persuading the subject to accept his suggestions is often begun during the interview and continued in a written report. If he is dealing with an individual who is very anxious to enter some occupation, e.g., the Diplomatic Service, for which he is clearly unsuited, the adviser may, at a very early stage in the interview, find it expedient to endeavour to influence the subject against this occupation by making somewhat biased statements about it, and by asking questions which indicate another point of view. He will try to present information about the disadvantages of the occupation in such a way that the subject will see for himself that his objective should be changed. In the same way the adviser often stresses the advantages of occupations for which the subject

appears to be well fitted, but for which, at the time of the interview, he has little inclination.

No obvious attempt is made to force the subject into accepting suggestions; if, however, the adviser himself is reasonably sure of the wisdom of his judgment, he aims at expressing his conclusions in such a way that the subject will make them his own conclusions too. In offering the suggestions he usually adopts a fairly authoritative manner, for he realizes that even thoroughly sound advice is not likely to be accepted with confidence unless it is given with confidence. The adviser finds justification for this attitude in the reflection that, if he is fitted for vocational guidance work and is experienced in it, his suggestions, though probably imperfect, will in all likelihood be at least as good as those anybody else can offer. He is, of course, careful to avoid encouraging an excessively dependent attitude; for, like the psychopathologist and the social worker, he knows how troublesome a dependent individual can be, both to himself and to other people.

REFERENCES

(1) Bingham, W. V. D., *Aptitudes and Aptitude Testing*. London: Harper, 1937. pp. 390.
(2) Bingham, W. V. D., and Moore, B. V., *How to Interview*. London: Harper, 1931. pp. 320.
(3) Burt, C., *The Young Delinquent*, 2nd ed. University of London Press, 1927. pp. 645.
(4) Oakley, C., and Macrae, A., *Handbook of Vocational Guidance*. University of London Press, 1937. pp. 337.
(5) Peterson, R. C., and Thurstone, L. L., *Motion Pictures and the Social Attitudes of Children*. New York: Macmillan, 1933. pp. 75.

SUGGESTIONS FOR GENERAL READING

Allen, P., and Smith, P., *Selection of Skilled Apprentices for the Engineering Trades*. Birmingham: The Education Committee, 1931. pp. 35.
Bingham (1).
Bingham and Moore (2).
Burt, C., *et al.*, *A Study in Vocational Guidance*. London: H.M. Stationery Office, 1925. pp. 106.
Earle, F. M., *et al.*, *Methods of Choosing a Career*. London: Harrap, 1931. pp. 334.
Earle, F. M., *Psychology and the Choice of a Career*. London: Methuen, 1933. pp. 103.
Farmer, E., and Chambers, E. G., *The Prognostic Value of Some Psychological Tests*. London: H.M. Stationery Office, 1936. pp. 50.

Jewkes, J., and Jewkes, S., *The Juvenile Labour Market*. London : Gollancz, 1938. pp. 175.
Keller, F. J., and Viteles, M. S., *Vocational Guidance Throughout the World*. London : Cape, 1937. pp. 575.
Laird, D. A., *The Psychology of Selecting Employees*, 3rd ed. London : McGraw-Hill, 1937. pp. 316.
Macrae, A., *Talents and Temperaments*. London : Nisbet, 1932. pp. 210.
Morton, N. W., *Industrial Diagnosis : A Manual for the Employment Office*. London : Oxford University Press, 1937. pp. 123.
Oakley and Macrae (4).
Rodger, A., *A Borstal Experiment in Vocational Guidance*. London : H.M. Stationery Office, 1937. pp. 50.

PART III
SOME METHODS OF SOCIAL ANTHROPOLOGY

CHAPTER XII
THE DEVELOPMENT OF FIELD WORK METHODS IN SOCIAL ANTHROPOLOGY

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PREFATORY NOTE

The following pages are devoted to a short historical survey of the techniques used by social anthropologists in collecting material in the field. These techniques have differed in the past, and still differ to some extent, from those used by sociologists researching in modern communities, whose theoretical objectives have often differed widely from those of the student of primitive society. The anthropologist's frequent preoccupation with the problem of reconstructing the past history and social organization of communities that have left no written records is a case in point. The particular conditions of anthropological field work, again, account for some of the differences in technique. Certain difficulties, such as those due to the remoteness of the field, and the size and illiteracy of the groups studied, have limited the types of observation possible to the anthropologist; other conditions have actually suggested fruitful problems for investigation, and have led to the development of observational techniques which have seldom been attempted in the study of modern societies.

Although differences in theoretical approach between various schools of anthropology are referred to in the course of this account, such references must not be considered as an attempt to describe or assess such contributions as a whole. It has been possible only to mention anthropological theories in so far as they appear to have directly inspired new types of field research. Many important contributions are therefore omitted. Similarly it must be understood that the monographs selected are not necessarily those which give the fullest information on any particular culture, but rather those which appear to illustrate most clearly different types of observation.

I. INTRODUCTION

Since the first generalizations of anthropological science were based on material recorded by untrained observers, their scope was largely determined by the accident of the observers' curiosity. The task of the anthropologist, as distinct from the mere observer, was considered to be the classification of data and the framing of deductions on the basis of these facts.[1] The first edition of *Notes and Queries on Anthropology* was published by the British Association for the Advancement of Science in 1874 " to promote accurate anthropological observation on the part of travellers, and to enable those who are not anthropologists themselves to supply the information which is wanted for the scientific study of anthropology at home." [2]

The material used for the earlier ethnological monographs was collected in nearly every case by men who specialized in other sciences or had interests in other fields. Morgan's discovery of the so-called classificatory system of primitive kinship, discussed and analysed by anthropologists for the next seventy years, was made in the course of some linguistic studies among the Iroquois in 1844, and F. Boas collected the data for his first ethnographical work when on a geographical expedition to Baffin Land in 1887. A. C. Haddon first became interested in primitive peoples while investigating the marine zoology of the Torres Straits Islands in 1888,[3] while the account by Spencer and Gillen of the totemic ceremonies of the Australians, on which Frazer, Durkheim, and later Freud, based much of their theoretical work, was also the product of a zoological expedition, in this case to Central Australia (1894).

The wide interest aroused by such publications led to the

[1] Tylor and Bastian travelled widely, but made no systematic study of a primitive people. Durkheim, Frazer, Graebner, Hobhouse, Lang, McLennan, and P. W. Schmidt, to mention only a few authors of important theoretical contributions to anthropology, did not themselves carry out field work. Westermarck studied Moroccan peoples at first hand, but he is best known for his comparative research.

[2] (79), p. iv.

[3] As a result he organized the first British anthropological expedition to the Torres Straits in 1899, taking with him W. McDougall, C. S. Myers, S. H. Ray, W. H. R. Rivers, C. G. Seligman, and A. Wilkin (89).

writing of a series of monographs on the simpler peoples by Europeans who lived among them, and often possessed a considerable knowledge of their customs and languages, even if they lacked special training. Many of these monographs reached a high level, and are still our chief source of knowledge in the case of several tribes.

Simultaneously, specialist anthropologists began to make scientific expeditions with the express purpose of studying one or more primitive communities, and the technique of observing and recording ethnological facts began to be discussed. The distinction originally made between the men who collected information in the field and those who examined and interpreted it at home has now disappeared, and it is as much taken for granted that an anthropologist should have some direct field experience, as it is that a biologist should do laboratory work. In fact, training in field method, admittedly still at a rudimentary stage, is recognized as a necessary part of most university courses in anthropology.

II. TYPES OF INVESTIGATION

The types of observation hitherto made in primitive societies have naturally been determined by the theoretical views of the investigators. It is impossible to write a " purely descriptive account " of any human culture, however simple. The facts recorded are themselves the result of selection, conscious or unconscious, in accordance with the observer's interests or theoretical outlook, even if he refrains from putting any special interpretation on these facts. The wide field of observation which the anthropologist claims to cover in his effort to describe tribal life makes such selection even more arbitrary.

In the earliest records made, customs that struck the European as remarkable, i.e. different from his own, were first recorded, and the " curiosity-value " of native institutions must be admitted to be one of the most important stimuli in anthropological investigation still. But the theoretical objectives of investigators may be roughly divided into two types :—

(1) The collection of data from a number of different societies, in order to study their relationships (*a*) with peoples at the same level of culture all over the world, or (*b*) with those known, or believed, to have existed at some period in the past, or (*c*) with

contiguous tribes at present inhabiting the same area, or believed to have done so in the past. These I have described as either 'ethnographical' or 'historical' studies.

(2) Intensive studies of the functioning of particular cultures, considered as a basis for generalizations about the nature of human society as a whole,[1] or of the effects of a variety of cultural forms on the behaviour of the individual. These I shall refer to as 'intensive sociological investigations'.

The two points of view distinguished above have inevitably affected the type of field work done. The former interest, which at first predominated, requires the observation of a number of comparable and usually formal aspects of as many societies as possible. The second, on the other hand, leads to a detailed study of the relations between different human institutions within the framework of a single culture, of the fundamental drives determining human activities within that culture, and of individual behaviour as moulded by its traditional norms.

A. ETHNOGRAPHICAL MONOGRAPHS

In England, largely due to the influence of the theory of evolution in the late nineteenth and early twentieth centuries, anthropologists hoped ultimately to be able to classify primitive societies in somewhat the same manner as animal species had been classified, and to trace their origins and affinities.[2] With this object in mind they sought to map out the distribution of the various peoples of the world, and to give an account of their physique, material culture, social structure, and in some cases also of their language. The amount of information on each of these aspects which was formerly considered necessary was not so great that one man could not reasonably attempt to obtain it. The latest edition of *Notes and*

[1] Cf. the distinction made by A. R. Radcliffe-Brown between social anthropology as a generalizing science, a branch of comparative sociology, i.e. the study of how societies work, and ethnology as a historical discipline, i.e. the study of how societies originated (16).

[2] It is interesting to note how many of the pioneer anthropologists had a biological training (Haddon, Rivers, Seligman, Huxley, Baldwin, Spencer, and others); cf. also the use, by Haddon, of biological terms in describing art forms (34).

Queries on Anthropology (80) gives directions for the collecting of data in these four main categories, and the same subjects are still included in the study of ' Anthropology ' in the curricula of English universities.

The earlier ethnographic monographs tended to conform to a similar plan. They consisted of general accounts of the tribal territory, the physical appearance of the people, and the chief features of their social organization, which were grouped under such headings as political and legal systems, kinship, religion, magic, economic life, and material culture. They differ from later monographs chiefly in the degree of detail recorded, their less psychological approach, and their less complete analysis of the relationship between the different aspects of society described.

The object of these earlier investigators was, indeed, to record material for general ethnographic comparisons and for the classification of primitive groups, not to undertake intensive sociological studies. Many of them were also influenced by the current evolutionary assumption that the existing simple societies represented survivals of stages through which all human peoples had once passed, and that similarities in custom would therefore be discovered all over the world among those at similar levels of development.[1] Fragments of native folk-lore, superstitions, magical practices, and so forth, often listed without any attempt to explain them in relation to the particular culture where they were found, were collected, largely under the impetus of the study of European folk-lore at the end of the nineteenth century,[2] with a similar aim. Other items of information appear to have been noted because they were considered remarkable or inexplicable in themselves, and were often grouped together under such a heading as " miscellaneous notions " or " remarkable beliefs ".[3]

[1] E.g. the special inquiries into ritual attitudes towards animals and plants, and the keeping of food taboos, which resulted from the discovery in the late nineteenth century of totemism in a dramatic form in Australia and North America, and the attempt to discover a magico-religious concept similar to the belief in *mana* described by Codrington in Melanesia (cf. J. H. Hutton, who equates *mana* with the *aren* of the Ao Nagas in a footnote to (76), p. 257 ; and A. van Gennep's conception of *hasina* in Madagascar (32)).

[2] See Chapter XIV, Section I.

[3] Frazer's questionnaire to field workers, first published in 1907, contains

B. TRIBAL SURVEYS

Surveys of the chief features of the social organization of a number of contiguous tribes represent another method by which the relations between societies have been studied. In the earliest expeditions carried out with that object, investigators attempted to study the tribes of one area not only from the anthropological, but from the geographical, archæological, or linguistic points of view as well, the Jesup Expedition to the North Pacific (12) being a case in point.[1] But surveys of the different peoples in one area, limited chiefly to their social and physical characteristics, have been made by a number of workers; examples are the pioneer investigations of Seligman in New Guinea (105) and later in the Nilotic Sudan (106), which he visited three times, 1909–10, 1911–12, and 1921–22, being followed by E. E. Evans-Pritchard in 1926 (83).[2]

The Australian continent, owing to the cultural and linguistic uniformity of its aboriginal inhabitants, has lent itself particularly to this type of work. Early writers of such surveys include E. M. Curr, H. Basedow, R. H. Mathews, and A. W. Howitt. Rivers described his study of Melanesian peoples as a survey, although he never intended to write a purely descriptive account of a geographical area. Ethnographic investigations of several districts have been made by government officials for administrative purposes, often in connection with census work.

Data collected in this way must necessarily be of a more superficial kind than those obtained through special studies of one culture, since only short periods can be spent in each tribe, and the research must usually be conducted through an interpreter; but in an area of which nothing is known, preliminary surveys seem to be an essential basis for further work.[3]

a section headed " Miscellaneous Superstitions ", which directs the observer to make inquiries about seeming oddities such as transvesticism, the evil eye, the couvade, and so forth (30).

[1] This consisted of an ethnologist, an archæologist, and a linguist, and its object was described as being " the investigation of the tribes, present and past, of the coasts of the N. Pacific Ocean, the investigation of the history of man in a well-defined area " (12).

[2] Evans-Pritchard's contributions belong, however, to the group here described as intensive sociological studies (Section D, below).

[3] For detailed comparative studies of culture areas by contemporary American anthropologists, see Section C, 3, below.

C. FIELD WORK AS A BASIS FOR HISTORICAL RECONSTRUCTION

Probably the majority of ethnographical field studies have been undertaken for what may be broadly called their historical interest. Some anthropologists maintain that the reconstruction of the history and affinities of different ethnic groups, rather than the sociological or psychological analysis of different cultural forms, is the essential task of the anthropologist, and many field workers have specifically stated that their object was the collection of data likely to throw light on the past.[1]

The monographs which may be roughly classified as having an historical basis vary greatly in type and objective. They include the contributions of (*a*) those who held the earlier forms of evolutionary theory described above, and whose field work was influenced by their desire to search for survivals of previous cultures in present-day societies; (*b*) those who collected material to test some particular theory of migration or other historical hypothesis; and (*c*) those who have attempted the more systematic reconstruction of the history of groups of which we have no archæological record, proceeding by indirect methods such as the collection of tribal traditions and the analysis of the distribution of different cultural and linguistic traits, on the assumption that common forms indicate common origins or culture contacts.

It is impossible even to summarize here these contributions to the history of primitive cultures, but whenever a predominantly historical point of view has been adopted it seems to have had marked effects on the method of field work. It has been responsible for the search for societies " untouched " by civilization, and for the feeling that it was urgent to record their customs as rapidly as possible lest information of historical value should be irrevocably

[1] Typical is Roscoe's statement that his aim was " to describe the social and religious life of the Baganda in the old days " before the coming of the white man ((96), p. ix), and to study " those primitive living races of men who are melting away before our eyes, and who can still tell us secrets which we shall never wring from all the tablets of Babylon and the pyramids of Egypt " ((98), p. vi). See also Rivers' description of existing kinship usages as " hidden indications of ancient social institutions " of which " the study is essential for the advance of knowledge of prehistorical sociology "((94), ii, p. 3).

lost.[1] The attempt to reconstruct the history of different ethnic groups has also meant inevitably an interest in the relations between a tribe and its neighbours, and in the collection of facts from a number of different societies to elucidate these, as distinct from the sociologist's desire to make a detailed investigation of the social structure and psychological patterns of a single one. It has led to concentration on the comparable, and hence inevitably the formal, aspects of a culture, rather than on the dynamic forces that underlie it. Past history has been reconstructed by many methods, such as the study of archæological data, of trait distribution, of linguistic forms, and of the personal reminiscences of the old (99).

Field work which has been undertaken with an historical objective may be considered under three headings.

1. *The Investigation of Special Historical Hypotheses*

Examples of this type of work are the search in a number of African tribes for elements of the Hamitic or other ancient cultures, such as that made by Roscoe (97) on the Mackie expedition to Uganda in 1919–1920, at the instigation of Frazer, and Meek's approach to the study of some Nigerian peoples (74), under the influence of the "diffusionist" hypothesis of Elliot Smith and W. J. Perry. Expeditions by Frobenius to different parts of Africa to search for traces of certain intrusive Asian cultures may also be mentioned (31). Rivers' reconstruction of the history of Melanesian society as a series of migrations of peoples with different cultural characteristics also inspired field work (22, 42, 48). Fison and Howitt studied the kinship nomenclature of Australian tribes (26) at the request of Morgan, who wished to obtain material to illustrate his view that there are different characteristic stages in the development of kinship structure. Apart from giving a general ethnographic account, all these investigators reported the presence or absence of

[1] See Bartlett's comments on the effects of this sense of urgency on the work of the anthropolog st as compared with that of the social psychologist (2); also *Notes and Queries*, 1874: "The more remote and unknown the race or tribe, the more valuable the evidence afforded of the study of its institutions . . ." ((79), p. iv). It must be remembered that the first anthropological studies were made for the most part in Oceania or North America, where primitive races were disappearing at a very alarming rate.

certain features of social organization and material culture which were thought to throw light on tribal affinities, and hence possibly on the problem of origins.

2. *Culture Circles* (Kulturkreise)

A serious attempt to introduce a more systematic method into the study of primitive history has been made by the followers of Ratzel, such as Frobenius, Graebner, Ankermann, and later Schmidt and Koppers. Their work originated in the systematic classification of museum specimens, which resulted in large-scale studies of the distribution of particular culture traits, the making of elaborate distribution maps, and finally the framing of certain laws of cultural diffusion, embodied in the concept of culture circles (*Kulturkreise*). A *Kulturkreis* is a complex of associated traits, including social institutions, forms of ritual, and material equipment, which are believed to have impinged on other similar circles in historic sequence. The mapping out of these circles has given rise to certain hypotheses concerning the peopling of Oceania, Africa, South America, and other areas, and some of these have been tested in the field. Frobenius made a number of journeys to different parts of Africa, searching for archæological evidence and noting the presence or absence of certain traits in the spheres of political organization, art, and material culture, among others (31). Koppers visited South America (52) and Schebesta various pigmy tribes (102, 103), but neither the Frobenius Institute at Frankfurt nor the Viennese school of ethnology appears to have organized field research on a comprehensive scale, as have the American students of distribution.

3. *Historical Reconstruction and American Field Work*

Contemporary American anthropology shows two main trends. The first may be described as mainly historical, since it aims at the reconstruction of the history and affinities of the different North American tribes by means of an analysis of trait distribution of a very complex and precise type.[1] The second is in essence a psychological approach, since it attempts to compare what might be

[1] Compare the relatively small number of culture traits or " Symptoms " listed by Graebner or Frobenius with the detailed analyses of minute variations in cultural forms referred to later in this section.

called the sum total of the attitudes, interests, and social norms characteristic of one tribal group with that of others, and to describe the individual as the product of such cultural influences. Both of these theoretical trends appear to have originated in the work of Boas,[1] but their specific observational techniques now differ widely. The former type of research will be discussed in this section, the latter in Section D, 2.

American anthropologists protested against the evolutionary outlook of the earlier English theorists and their attempt to generalize about the nature of primitive man from data collected from all over the world. Boas himself stated from the first that his interest lay in ascertaining the range of variation of different cultural forms which could be found among contiguous Indian tribes, rather than their common elements. Whether due to environmental or to historical factors, this variation should, he insisted, be studied with scientific precision and within the limits of one particular geographical area, without engaging in the reconstruction of the history of whole continents. The result has been a series of studies of ethnic groups which are more precise and comprehensive than those we possess for any other part of the world. Examples are Boas' own work on the language, myths, social organization, and material culture of the tribes of the north-west Pacific area, Kroeber's study of the Californian peoples and Lowie's comparative work on the Plains Indians.

This orientation of interests has developed gradually. Clark Wissler laid the basis for the classification of the American peoples by demarcating " culture areas ", blocks of tribes associated with a special environment and type of food quest and possessing a sufficient number of traits in common to justify the assumption of affinity and common origin (117, 118). An increasing number of ethnographic monographs permitted a more accurate mapping out of the culture areas, and the determination of the relationship of different tribes according to their distance from the culture centre, where the greatest number of diagnostic traits are found, or from the marginal areas, where the traits of the adjoining culture area begin to appear. Thus the results of geographic distribution studies have been translated into time series by means of a number of

[1] See his description of the aims of anthropology (12, 13) and also his preface to a book by M. Mead (71).

theoretical assumptions, e.g. that the more widely distributed a trait, the older it can be held to be.

Not only have reconstructions of the genetic connections between different ethnic groups been attempted, but also generalizations about the nature of culture contact, diffusion, borrowing, and adaptation, " the dynamic phenomena of cultural change " (39). Special comparative studies of folk-lore, technology, language forms, clan and moiety organization, and ceremonial, have been used in this way; Spier's collection of essays on the sun-dance of the Plains Indians (110) and Lesser's examination of the changes in the Pawnee Ghost Dance hand game (55) illustrate this type of work.

In recent years Kroeber and his pupils have tried to express such data on trait distribution in quantitative terms. The original traits have been split up into a number of characters which are treated as units, of which the presence or absence in contiguous tribes is held to indicate historical connection.[1] The different cultural elements thus isolated are necessarily of a formal character, and vary from intricate details in the design of pottery or basket work to institutions like the *potlatch*, religious concepts such as the attitude to the Creator, details of kinship nomenclature, clan structure, folk-lore themes, and customs such as the position adopted by women during parturition. Kroeber finally differentiated 800 separate elements in studying the affinities of northern Californian tribes, which were later reduced to 400 by Klimek, who worked out the coefficients of similarity between 500 of these peoples with regard to the presence or absence of particular traits (51). It is in this determination of tribal affinities by means of an enumeration of their common elements that this particular development of American field technique differs most widely from the " intensive sociological studies " described in Section D.

The development of American field methods has been influenced by theoretical interests, by the nature of the peoples studied, and

[1] Among 158 traits used in one comparison of north-western Californian tribes with adjacent peoples, Kroeber and Driver specify 15 different house types, isolating as separate culture traits the presence or absence, for instance, of those between 12 and 20 feet broad, as compared with those between 30 and 40 feet broad, or up to 60 feet broad, and mentioning the use of redwood, sugar-pine, cedar bark, and so forth (54). Gifford, in studying the amount of conceptual interrelationship of 50 kinship systems, dealt with 37 different classificatory uses of kinship terms (33).

by the opportunities for work. The presence of a large number of Indian tribes with marked cultural variations, living in close contact with each other and with the European population, but in varying environmental conditions, has naturally made the problem of differentiation a very fascinating one. The fact that so few of the Indian cultures still survive as functioning units has made it inevitable that much American field work should have consisted in the recording of texts from old men and women who remembered previous conditions, rather than in direct observation of native life.[1] The existence of historical documents from the time of the first arrival of the Europeans has facilitated the chronological study of many of these groups, and the early development of American interest in anthropology, the proximity of the field of study, and the facilities for research have made possible the organization of detailed comparative investigations of a type not attempted elsewhere.

D. INTENSIVE SOCIOLOGICAL STUDIES

In the type of field work which I have described as 'intensive sociological investigation', the anthropologist is not primarily interested in tracing the relationship between cultures, whether in a limited geographical area or in chronological sequence, but in discovering the intimate interrelations between the different institutions of one particular culture. He is endeavouring to discover the nature of human culture by means of a very detailed study of one individual society, of the organization of its members' activities and interests, and of the forces that keep them united as a group, rather than to ascertain "what details are significant in setting off his tribe from its neighbour" ((60), p. xvii). Anthropologists with this point of view have attacked the predominantly historical approach of some of their contemporaries. They have criticized the latters' methods of reconstructing chronological sequences by the quantitative analysis of the distribution of traits, and stress instead

[1] Klimek defends the use of a questionnaire on 1,000 cultural items among the Californian Indians on the ground that "It helps to focus their attention on the old cultures as distinct from the hybridized ones in which they live" ((51), 1935, p. 10), and it is interesting that studies of these hybridized cultures are only now beginning to be made. Spier, in his account of the Yaman tribe, laments not being able to get a complete account of tribal life from one old man ("Yaman tribes of the Gila River", *Univ. of Calif. Publ. in Amer. Arch. Ethnol.*, 1933). Cf. also Lowie (60), p. xxi.

the integral nature of human culture, and the danger of isolating single elements without an understanding of the part they play in the society as a whole.[1] They have even questioned the value of any attempt at historical reconstruction, and have themselves been almost exclusively interested in determining the functions of particular institutions in living societies without speculating about their historical or evolutionary significance. Hence the original use of the term 'functional anthropology' by Malinowski, afterwards extended to cover a particular type of cultural analysis (see Section D, 1, below); also Radcliffe-Brown's insistence that anthropology is in effect comparative sociology.

While it is true that earlier writers of ethnographic monographs also observed and described "whole societies", Boas and other American anthropologists frequently stressing the connection between different aspects of culture, yet the theoretical outlook of the 'functional' anthropologist has led him to make much more detailed analyses of the interrelations of different institutions in one community than had been attempted heretofore. The fact that all such investigators have spent a considerable time in the study of a single community in the field, working through the native language and participating in the tribal life, has resulted in a series of monographs which give a more rounded picture of native life than had previously been presented,[2] adding the detailed documentation of individual and group behaviour to the accounts of the formal elements of social structure and material culture which were formerly given.[3]

[1] Cf. Radcliffe-Brown: "The meaning of an element can only be defined when the culture is seen as a whole of interrelated parts" ((16), p. 155); and Malinowski: "Culture must not be treated as a loose agglomeration of customs, as a heap of anthropological curiosities, but as a connected living whole" ("Social anthropology", *Ency. Brit.*, 14th ed., 1929, xx, p. 864).

[2] Cf. Frazer's Preface to Malinowski ((64), p. ix): "He sees man, so to say, in the round and not in the flat." Herskovits also uses the term "rounded presentation" ((40), p. 22) to describe this type of work.

[3] The relation between anthropological theory and field opportunity is still further demonstrated by this fact. The field worker, American or English, who has worked for long periods in a living culture has tended to adopt this sociological point of view. Those who have had to collect information from survivors of an extinct culture have inevitably had a more directly historical interest.

1. *Functional Analysis*

The possibilities of the systematic field investigation of one culture were first demonstrated by Malinowski in his work on the Trobriand Islands (1915–20), and his constant emphasis on methodological problems has deeply influenced the development of field technique. For this purpose he has classified the fundamental institutions of society, which he regards as the organized bodies of activities carried out by each social group in fulfilment of a primary biological need, related to a part of the environment in ways that are culturally defined, and associated with certain material objects, traditions or myths, each such institution having its political, economic, legal, educational, religious, and other aspects.[1]

Malinowski's definition of an ' institution ' has not been accepted by all sociologists, but it has certainly stimulated the collection of the fullest amount of material in the field, by forcing the observer to consider any custom from every point of view. The wide range of observation demanded by such an analytical scheme is shown in Malinowski's recent study of Trobriand agriculture (65), which includes not only a description such as would be required for a comparative study of the type of crop grown, the implements used, the general nature of the activity, and the ceremonial associated with it, but also an account of the environment, of the tribal rules regarding its use, of the mythical charters for its possession, of the primary activities of gardening and the secondary ones associated with them, of the system of social grouping associated with the habitation and ownership of land and the production and distribution of crops, of the leadership the tribesmen obey, of the system of legal and other rules which binds them, and of the traditional knowledge and beliefs by which they are guided.

Whether or not it will prove possible to make a complete presentation of the working of a whole culture, however small, in this fashion, it is evident that an investigator using such a comprehensive scheme of cultural analysis is compelled to make very

[1] For instance, the institution of the family serves the primary need of procreation, and is attached to a definite locality and system of housing. Its members hold an organized body of beliefs as to descent, and accept a series of legal obligations as between husband and wife, parents and children, and so forth, the whole family and kinship group having its specific political, economic, religious, educational, and other aspects (66).

exhaustive and systematic observations in the field. In fact Malinowski, his pupils, and a number of other anthropologists who have made detailed sociological studies of this type, from whatever theoretical point of view, have hitherto presented their material in the form of discussions of one aspect of a society and all its ramifications rather than as an attempt to picture a whole culture.[1]

Comparative work on the basis of such detailed functional studies has hardly been attempted, principally because sufficient data of the necessary type do not yet exist. Radcliffe-Brown has frequently stressed this point, and advocated the need for comparative investigations in one region following on detailed functional studies of the particular cultures contained in it (15). In the special conditions of the Australian continent, where there are relatively homogeneous cultures, with certain linguistic distinctions, he organized a systematic investigation into the morphology and functions of kinship and totemism, with the object of classifying the data obtained.[2] His examination of the function of the mother's brother in several South African societies shows a similar purpose. Elkin's more detailed survey in West Australia, South Australia, and New South Wales (1927–37), and the work of investigators sent out by the Australian National Research Council, is also intended to produce comparative results (23, 24).

2. *Culture Pattern Studies*

The organization of the sentiments, interests, and values of a particular group, as forming a characteristic pattern, has been mentioned as one of the key concepts of contemporary American anthropology. Such terms as the 'pattern', 'orientation', 'style', or 'drive' of a culture have been used to describe the influence of the prevailing values of a community on its individual members, to explain the differential adoption and rejection of new cultural

[1] Cf. Malinowski's treatment of trade (64), sex (69), magic and agriculture (65); Firth's of primitive kinship (25); Evans-Pritchard's of magic (83); Fortune on witchcraft (29); Mead on adolescence (71); Bateson on mortuary ritual and behaviour patterns between the two sexes (6); Hogbin on law (44); Richards on diet and economics (*Land, Labour, and Food in Northern Rhodesia*. London: Oxford University Press, 1939).

[2] North American material has been similarly treated (see Eggan, F., ed., *Social Anthropology of North American Tribes*, University of Chicago Press, 1937, pp. 456).

elements by groups of American tribes, and to provide the basis for broad comparisons of the temperamental characteristics and social norms of different ethnic groups.

This concept has raised the important question of the relation between temperamental traits, social structure, economic ambitions, and ritual and literary forms, and its supporters suggest that it provides a basis for comparing cultures as wholes, a task not yet attempted by Malinowski and his followers. Whether it will materially influence field work remains to be seen. At present the term 'pattern' variously denotes the dominant institution of a culture, e.g. the *potlatch* of the North-West American Indians, the reciprocal exchanges of the Trobriand Islanders, or the joint family of Tamala culture; the traditional norms of social or ritual behaviour, e.g. whether grief is violently or quietly expressed; literary expressions of values, such as myths and proverbs; or the most absorbing ambitions of the people, e.g. their desire for cattle or military glory.[1] The concept is therefore difficult to use as yet as a basis for exact comparison. To describe the main principles integrating a social system requires a detailed analysis of the interrelations of its different institutions, but to classify cultures in psychological categories, and to characterize the social behaviour of one group as distinct from another, demands a particular type of field observation and exact definition of the terms used. These do not yet appear to have been achieved, but the concept has led to an interesting presentation of ethnographic data and the collection of material on the educational mechanisms of primitive peoples.[2]

E. ANTHROPOLOGICAL RESEARCH AND ADMINISTRATIVE PROBLEMS

The links between anthropological study and colonial administration have always been close in the case of England. Some of the

[1] *Vide* Benedict (7, 8), who uses such terms as 'Apollonian' and 'Dionysian' to classify primitive cultures. Linton describes the 'orientation' of the interests of a war-loving people, and that in which family organization is the basis of social grouping (59). Mead also uses the culture pattern idea (*Sex and Temperament in Three Primitive Societies*. London: Routledge, 1935, pp. 335). Bateson speaks of the 'ethos' or standard of behaviour achieved by a group (4, 6). This whole concept has been critically analysed by Nadel (78).

[2] See particularly the work of Mead, e.g. (71).

best monographs on primitive peoples have been compiled by officials in the administrative service, and it was early recognized that a knowledge of native customs was essential for administrative officers if crude misunderstandings and possible outbreaks of hostility were to be avoided.[1] The work of the professional anthropologist has been considered of value in interpreting native custom to Europeans unfamiliar with it, and special officers with anthropological training or interests have also been appointed by various Governments to make surveys of the tribes of unknown areas or to research into cases of disputed succession or political organization in general.[2] In Nigeria a team of administrative officers were employed from 1934 onwards to study the political system of a number of tribes in the Northern territories, and the adoption of the policy of 'indirect rule', making use of native institutions, in many parts of Africa administered by the British, has made investigations of this type essential.

Among professional field workers, the development of anthropology as an applied science has proceeded rapidly, although it has been chiefly limited to the anthropologists of England, South Africa, and Australia, in accordance with the British colonial traditions already described. Since 1929 Malinowski has constantly pointed out that the detailed studies of land-tenure, political organization, language, economics, and so forth produced by intensive sociological research, could be of inestimable value to administrators dealing with practical problems affecting native welfare, and he urged the employment of field workers to conduct purely objective investigations of this sort (67, 68). It is natural that those who have adopted 'functional' or kindred points of view, and who have announced their intention to avoid the so-called "antiquarian bias" and to study primitive peoples as they are

[1] Cf. E. W. Smith (108) for an expression of this point of view. As early as 1896 there was an attempt to form an Imperial Bureau of Ethnology to collect data considered of "immense value to science and to the Government itself", as described by Myres (77); see also Seligman (106), pp. xvii–xix.

[2] E.g. the ethnological surveys in the Sudan already referred to in Section II, D; the work of E. W. P. Chinnery in New Guinea, R. Rattray on the Gold Coast, C. Meek in Nigeria, and J. H. Hutton in India; also the organization of ethnological work among the administrative officers of the Belgian Congo service, described in Verhulpen (113).

actually living under present-day conditions, should have been particularly interested in problems of change and social adaptation.

Whether the anthropologist will establish his claim to act as an expert adviser to colonial governments on the sociological aspects of their policies is not yet clear, and there are obvious difficulties involved in carrying out scientific investigations under the orders of a government, and concerning problems that are bound to raise controversial issues. But a number of independent field workers in Africa have already been consulted on specific points by the administrative officers of their areas, and have provided information on such problems as land-tenure, stock-raising, diet, marriage, legal codes, succession to chieftainships, education, and social survey methods (87).[1] An experiment in co-operation between an anthropologist and an administrator was conducted in Tanganyika in 1935, when the official in question indicated definite problems, such as the nature of the political organization, law, and land-tenure, the effects of registration of marriage on native divorce, and the consequences of capital punishment, and the anthropologist collected additional data on these points in the course of his work (17).

Another experiment in applied anthropology is the establishment of the Rhodes-Livingstone Institute, in 1938, with a staff of three anthropologists, one of whom is now engaged in research on the effects of the development of the North Rhodesian copper belt on tribal life. An expedition organized by the International Institute of African Languages and Cultures (1938) to study the nutritional problems of two Nyasaland tribes, is composed of a doctor, a nutrition expert, and an anthropologist, which suggests that ethnological research will also prove to be of value to the technical services of colonial governments, i.e. their agricultural, veterinary, medical, and educational departments. These types of co-operation are, however, still in their infancy, and the problem of safeguarding the scientific freedom and objectivity of the anthropological field worker, and at the same time making his services available to the government of the area studied, is one that has not yet been finally solved.

F. CULTURE CONTACT STUDIES

Most forms of culture history are in essence a study of the

[1] Cf. (35), pp. 45–9.

interactions of societies, whether as a result of conquest, juxtaposition, or interpenetration, as evidenced chiefly in the diffusion of material objects, of customs, or of ideas. As has been shown, the historical investigations of most American anthropologists have attempted both to reconstruct the chronological sequence of peoples in a particular area and to throw light on the nature of such processes as diffusion, adaptation, assimilation, or acculturation. The nature of the contact between different American Indian tribes, or between Indians and Europeans, has been deduced in three ways: by a quantitative examination of their common features; by the use of historical documents, which are available for long periods of years; and by the analysis of descriptions given by the older men of a community of what they remember about changing institutions.

More recently an effort has been made to study processes of acculturation in their own right, and not merely as a by-product of historical reconstruction. In 1936 a sub-committee of the American Social Science Research Council drew up an outline designed to aid in the classification of the different forms of culture contact already observed, and to indicate lines of possible research.[1] A number of field workers, including Herskovits, Mead, Clews Parsons, Radin, and Redfield, have concentrated specifically on such problems, in some cases announcing their intention of observing changes actually occurring in the native society, rather than those which are recalled.[2]

Among English anthropologists the term 'culture contact' has been chiefly restricted to the description of the changes caused in native societies by the impact of European civilization.[3] The

[1] Herskovits (38) publishes this outline together with a summary of the work done by English and American field workers on this problem, and suggests definitions for such terms as acculturation, assimilation, etc. Cf. also Bartlett's previous attempt to define different forms of culture contact (3), Malinowski's suggestions for a functional analysis of culture change (67), and a scheme proposed by Bateson (4).

[2] See, e.g., Herskovits (38, 39), Mead (70), Redfield (88), and Radin ("The influence of the whites on Winnebago culture," *Proc. State Historical Soc. of Wisconsin*, 1913, 137–145). E. J. Lindgren has described contact between the Reindeer Tungus and the Russian Cossacks of Manchuria (56).

[3] Herskovits (38) has stressed the importance of investigating contacts between different indigenous populations in the United States, Melanesia, and South and West Africa (p. 124).

depopulation of the Pacific, consequent on European occupation, stimulated field work on the problem of contact, as is shown by the writings of Rivers (94), Pitt-Rivers (92), and Keesing (49, 50), and as early as 1903 a special commission was appointed to study this question in Fiji. The Institute of Pacific Relations, which was founded in 1920 and meets triennially, has advocated and financed research into the causes of depopulation. Religious cults which arose in New Guinea as the result of European contact were described by Chinnery and Haddon (18) in 1917 and by Williams for the period 1923–35 (115, 116). More recently the International Institute of African Languages and Cultures has sponsored a five-year plan of research into the effects produced on eleven different societies by contact with Europeanism. It is obvious that the functionalists' insistence on the very detailed analysis of the inter-relations between different institutions and systems of ideas makes a fruitful basis for an examination of the dynamic effects produced by the alteration of any one aspect of the social structure as a result of contact, and much of this work has been carried out by pupils of Malinowski.[1]

In any study of changes so rapid as those produced by the impact of an industrial civilization on a primitive people there are certain main problems to be faced in field work, whatever the theoretical interests of the observer may be. One of these is the reconstruction of a sufficient historical background to form a base line or zero point from which to measure the changes which have taken place in the society in question. Here there is some difference between the objectives of the American and of the English anthropologists. The former appear to be interested in deducing all the stages through which the particular culture has passed, by the widest use of documentary materials and the memories of older men, and in determining all the sources from which the culture has derived its various elements, ascertaining whether they have been adapted or have disappeared at the present day (39). Thus a complete historical sequence is presented, so far as the evidence allows. 'Functionalist' studies also make use of verifiable historical facts wherever possible, but use the memories of older men as an index of the living history

[1] M. Fortes, S. Hofstra, M. Hunter, L. P. Mair, S. F. Nadel, K. Oberg, M. Read, A. I. Richards, I. Schapera, G. Wagner, G. Wilson. The work of I. Hogbin in Polynesia is similar (43).

that survives and influences contemporary social behaviour, and concentrate chiefly on detailed observation of the changes in tribal organization and beliefs that are actually taking place, rather than on unravelling the origins of all the elements that have gone to make up the culture (67).

Another problem consists in the adaptation of a field technique first evolved in the study of more or less static communities to conditions of rapid change, involved in the adoption of urban life, wage labour, or the acquisition of reading and writing and such highly technical skills. It has been found necessary to make a study of the outline of a culture first, and then to estimate the degree of variation in custom and belief produced in the society by culture contact. Mead attempted to do this in the case of an Indian tribe by selecting one informant in each of three generations and viewing the changes through their eyes, supplementing their accounts with information obtained by the analysis of 160 households (70). Schapera has made a series of visits to one South African community over a period of eight years, constantly recording the changes taking place (100, 101). Hunter has compared Pondo villages, Pondo settlements on European farms, and Pondo houses in the urban areas (45, 46, 47). Richards has studied villages which have had different types of contact with Europeanism, and used sociological censuses to estimate the degree of individual variation in custom as the result of the impact of Western civilization (90, 91).

G. SPECIAL PROBLEMS

In earlier days the ethnographer, chiefly owing to the inaccessibility of his field, felt it a duty to collect information on most aspects of primitive life, whether or not he was specially qualified to do so. Later special expeditions were made to collect artefacts, to study music, language, or folk-lore, to apply psychological tests (10, 81, 82) or to psycho-analyse members of primitive groups (95).

Here a difficulty arises. To study a special aspect of a native culture without a knowledge of the language and social structure of the people has usually yielded disappointing results; for the ethnographer to make superficial studies of some aspect of culture which he is not trained to investigate is equally unsatisfactory. Very few such specialist studies have, indeed, been made. The remedy

appears to lie in the organization of joint expeditions by anthropologists and one or more other specialists,[1] or the choice by specialists of areas in which very detailed sociological studies have already been made.[2]

Somewhat the same difficulty has arisen in connection with the intensive type of investigation now usually made by the anthropologist himself. The degree of detail required, and the observer's attempt to study individual variations and the phenomena of culture change in addition to more general features, make it necessary for him to divide his work into a preliminary survey and a subsequent investigation of a particular group or problem. Especially when research is undertaken in areas where contact with Europeanism has been great, wider issues are involved, in the analysis of which the help of the economist, psychologist, ecologist, medical officer, and others is needed. The possibility of co-operation on these lines should increase with the number of first-class sociological studies that become available.

III. METHODS OF OBSERVATION

The student of primitive societies enjoys certain advantages in observation. The communities he observes are for the most part so small [3] that they can be investigated as functioning wholes, and not merely as subdivisions of a larger society. He is able to collect data to show the working of all the fundamental institutions of a particular tribe, and is not limited, as in the case of a complex civilization, to a study of one particular aspect, such as the economic or the educational. The size of the group also makes it possible for him to make personal contact with a large proportion of its members, which is again impossible in a modern community.

[1] Bartlett (2) also suggests this. The nutritional expedition described above (Section E) is an example of the type of work that might be done.

[2] An example of this is Benedict's work on Zuni mythology in an area the culture of which was well known, and where she had had previous field experience (9). See also Schapera's studies of Tswana law, etc. (101).

[3] Spencer and Gillen worked among 2,000 Australians (Arunta), Malinowski among 1,300 Trobrianders, R. Firth among 1,200 Tikopians, R. Fortune among 1,200 Dobuans, and Mead among 2,000 Manus islanders. The African tribes studied have, however, usually been much larger, numbering between 10,000 and 150,000 in South and East Africa and up to 500,000 in West Africa.

Furthermore, the economic activities of a primitive society are in general so simple that they can be described with comparatively little technical knowledge,[1] and individual occupations are so little specialized that it is often possible to assume that detailed records of comparatively few life histories, and observations on the social life of one or two local groups, provide sufficient data from which to draw conclusions as to the nature of the culture as a whole. It is also important to remember that the members of a primitive community commonly adhere to formal patterns of behaviour in their relations with each other, such as the series of obligations, rules of etiquette, linguistic and other usages which are traditionally defined between kinsmen. This phenomenon makes possible generalizations about the norms of human intercourse which it would be difficult to make in a more complex society. In most primitive tribes the type of housing also facilitates the observation of daily activities, in contrast to the situation prevailing in most European societies, where people spend at least three-quarters of their time behind closed doors.

Another asset of the anthropologist is, paradoxically enough, his sheer unfamiliarity with the customs of the people studied, since this constantly arouses his theoretical interest. It is often argued that field observations should be made by educated members of the group studied, and there are advantages in such a course from the point of view of language and personal contacts with the people. But it is doubtful whether these assets outweigh the drawbacks of a lack of curiosity and of that clash in values which is often the chief stimulus to further inquiry. We have few descriptions of European eating customs or kinship usages as detailed as those which we are accumulating in the case of the Melanesian and African peoples, and where scientists have observed their own cultures it is noteworthy that they have given us better accounts of the ritual and political aspects of life than of its more intimate daily events or of the culture as a whole.[2] The anthropologist also

[1] Thus an anthropologist can give a fairly adequate account of primitive iron-smelting, but could not attempt to describe a modern blast-furnace without specialist knowledge.

[2] K. Rasmussen, himself half-Eskimo and a fluent speaker of the language, published a valuable account of Eskimo folk tales, magic, songs, and superstitions, as well as a vocabulary, but he gives no intimate account of daily life (86). Herskovits points out (38) that the reluctance of the observer

enjoys certain advantages as an outsider in the community studied.[1]

On the other hand, there are also specific difficulties in ethnological field work. For instance, the observer usually has to work in a strange language and often faces reluctance, and even hostility, on the part of the inhabitants when he endeavours to obtain information. In most cases he plays such an unfamiliar role in the community studied that he risks disturbing the normal current of life, and he may find difficulty in engaging in the type of social intercourse considered normal by the group. The areas occupied by backward peoples are frequently so inaccessible that he cannot enlist the help of specialists in other relevant sciences, although he may be obliged to consider his problems from many different points of view.

Ordinarily the anthropologist also has to do without records of the past or adequate statistics or other documentation regarding the present. While techniques for overcoming the difficulty of a lack of written records have reached a certain degree of precision, as in the work by American anthropologists described above, yet such reconstructions of primitive history as have been achieved provide at best large-scale pictures of migrations and contacts, not data for sociological comparisons.[2] The expense of investigation, moreover, commonly makes it necessary for the anthropologist to confine his

to record the familiar is a drawback in the study of contact between a primitive people and a European civilization, and quotes (p. 19) Schapera's statement (101) that it seemed " silly to record the details of a Christian wedding or confirmation ceremony with the same fidelity, let alone enthusiasm, with which one would note down the ' doctoring ' of a garden or hut.

[1] Cf. the discussion of ' stranger value ' in Chapters XIII and XVI.

[2] The position of R. S. and H. M. Lynd and their assistants, who were able to compare two stages of development in a typical Middle Western town in the United States by means of an analysis of newspapers and municipal and other records (61), may be contrasted with that of the average anthropologist. Many American anthropologists have, however, enjoyed the fruits of years of continuous study by their predecessors, as well as the possibility of repeated visits to their field. Thus Lowie refers to the first visit of Prince Maximilian to the Crow Indians in 1833, and was able to study them himself in 1907, 1910–16, and 1931 ((60), pp. xiii–xvii). Benedict has compared the results of her study of Zuni mythology with those of Cushing fifty years before (9). Lesser's analysis of the Ghost Dance hand game was based on the work of Mooney in 1890 (55).

observations to a limited number of months. What he is describing is, therefore, only a cross-section of the behaviour of a few individuals at a selected time, and this is inevitably an arbitrary method of sampling.[1] Europeans have, of course, often resided for twenty years or more among primitive peoples, but I know of no case where they have made systematic observations during the whole of such a period.

In general, anthropological methods of observation reflect the diverse theoretical emphasis described in Section II. But the line of division between the different types of work is not yet sharp, and the methodological difficulties of modern anthropologists are no doubt often due to the fact that they are still trying to collect information from most or all of these points of view at once.

The methods used hitherto may be considered under the following headings :

A. CONTACTS

The first problem of the anthropologist is to make contact with the people studied, so that they will be willing either to answer his questions or to allow him to observe and, as far as possible, to participate in, their activities. The suggestions made in various anthropological handbooks concerning the best way to establish friendly relations and to avoid giving offence do not differ markedly from those which might be made to any visitor to a foreign country, and correspond still more closely to the behaviour recommended for a social worker calling at the houses of European people belonging to a different class from herself (cf. Chapter XV). The difficulties which are specific to the anthropologist consist chiefly in his need for using a language for which often no grammar or dictionary exists, and in cultural differences so great that the observer is often treated as quite outside the ranks of ordinary society. Moreover some special pattern of behaviour which the natives may already have adopted towards members of his race and culture may restrict his opportunities still further (cf. Chapter XIII).

The language question is very important, and there is no doubt that the problem of contact is more than half solved if this difficulty

[1] Radcliffe-Brown (16) points out the difference between ' diachronic ' and ' synchronic ' types of investigation ; cf. also Firth ((25), p. 128) and Bateson ((6), p. 3).

has been overcome. The observer can begin at once to pick up information in the course of daily life, and not only by means of formal interviews. He also becomes less of an anomaly in the community. But to acquire even a working minimum of a language usually requires at least three months of solid work, and in the case of certain languages a good deal longer. Where a survey of several tribes is being conducted, or the period of research is short, it is impossible to give this amount of time to preliminary training for the work, and probably at least half of the extant ethnographic monographs have been written with the help of interpreters, by the use of pidgin English [1] or other lingua franca, or with an inadequate knowledge of the native language.

Here again it is the investigator's objective that decides the issue. In a study of the distribution of certain traits, in collecting native texts, or making a very rough ethnographic survey, research carried out through an interpreter may be satisfactory. Many American field workers have made records in phonetic script, and employed very skilled interpreters; Lowie has, indeed, suggested that in view of the extreme difficulty of some of the American Indian languages it is less dangerous to work through a good interpreter than to half-understand a native commentary.[2] If, however, the investigator is making an intensive sociological study, or trying to participate in native social life to any extent, a good knowledge of the language is absolutely imperative, whatever time has to be allowed for its acquisition.

The degree to which it is possible for the observer to live the native life varies with his temperamental characteristics,[3] as well as with those of the people concerned and their attitude towards

[1] In some South African societies the cult of Europeanism is so strong that the native makes strenuous efforts to learn English and to talk to the anthropologist in this medium.

[2] (60), pp. xviii–xx; however he advocates the use of the native language whenever possible, and insists on the need for a sufficient knowledge to be able to check the interpreter. See also Herskovits for an expression of a similar point of view (39).

[3] Cf. (64), p. 21. Bateson demands that in all publications " the type to which the investigator belongs should be stated and the general tone of his behaviour described " (5). This may or may not be possible. Lindgren emphasizes the importance of choosing a temperamentally congenial milieu (57, 58), but we have little conclusive evidence on this point.

members of his race [1]; the type of housing in the community also affects the issue. Most competent field workers agree that complete identification with the people is impossible. Herskovits writes that the ethnographer, "especially if he be a white man, has what has been called a high degree of social visibility" ((40), p. 323); but where life is lived for the most part out of doors, it is perfectly possible for the investigator to live in a native village, accompany the people to their work, watch all their important activities and festivities, and observe the course of ordinary daily life.

B. SELECTION OF COMMUNITIES

The basis of the selection of one or more villages for study was not at first considered important. For many general ethnographic monographs the anthropologist has obtained his information from informants chosen for their social or other qualifications, irrespective of the community to which they belonged.[2]

In a modern sociological study, however, the selection of the particular community investigated becomes important, for on it depends the value of the observer's generalizations about tribal life. This is particularly true when a large political unit such as a West African tribe is being studied. The degree to which any local group is really representative can be judged only after a preliminary survey of the district, and it may then be necessary to make a series of parallel studies in villages of different types. This has often been done in the case of chiefs' and commoners' settlements respectively, or as a device for the study of cultures undergoing change due to varying degrees of contact with Europeans (cf. Section II, F).

The method of selection, which is an integral part of the anthropologist's field technique, is one which needs greater definition and

[1] Lindgren points out that in Eastern Asia, where the white man usually lacks prestige and official support (58), and the safety of travellers is often roughly proportionate to their popularity, it is advisable to ask very few questions and await spontaneous confidences (57).

[2] Roscoe, for instance, states that he collected information about the Baganda by sitting in a hut, to which old men from different villages were carried ((96), p. x), and many ethnographical studies have been based almost entirely on information given by natives interviewed individually, and not as representatives of a group.

more conscious and careful use. The ethnologist has a more complex problem than the sociologist or the social psychologist making a survey of a modern community, who have one group of a society under observation only, whereas the ethnologist is attempting, by means of the village observed, to describe the whole tribal life of a people whose customs may be entirely unfamiliar.

C. DURATION OF INVESTIGATION

The question of the time to be spent in the native community obviously depends on a number of factors, such as (i) the type of objective, whether a preliminary survey or an intensive study; (ii) the amount of information about the culture previously recorded, and the observer's own degree of experience in kindred communities; (iii) the size and uniformity of the group studied, and the rate at which it is changing.

In accumulating data for his survey of Melanesian societies, Rivers spent a month on each of two islands, Hawaii and Fiji, but as little as a day on some of the others (94). Most of the studies of American tribes have been made on visits of from one to six months, probably owing to the nearness of the field and the nature of the investigations. But in an intensive sociological study a longer period of observation is necessary. The language must be learned, a substantial quantity of concrete case material collected, and the year's seasonal changes in activity observed.

Malinowski spent two years in the Trobriand Islands, in the course of three expeditions, and those of his pupils who have been Research Fellows of the International Institute of African Languages and Cultures have worked for two separate years in the field with an interval between. It is probable that if a very detailed study of some particular aspect of tribal life were required, it would be necessary to prolong an expedition even beyond this.[1] It is not yet known to what extent co-operative work would shorten the time required, as very few experiments of this kind have been tried.

[1] Read has recently returned to Nyasaland for a third visit, to make a specialist investigation of the effects of absentee labour on native standards of living and food production; the two previous years of field work were spent on a general study of the Ngoni tribe (87).

D. INTERVIEWING INFORMANTS

Having selected his community, the anthropologist proceeds to get his information by several methods. In the early days of ethnological investigation, questioning members of the tribe seems to have been the rule. To-day the formal interview is only one source of material, but it is still an essential one. Since Chapter XIII is devoted to a discussion of the interviewing technique in anthropology, only a few comments need be made here.

The anthropologist may select informants for their retentive memory, intelligence, or powers of expression; for their tolerance of himself,[1] or ability to speak his language; for their degree of education, or specialized knowledge due to age, rank, or profession. Observers have at times relied very largely on one or two informants who have become specially valuable to them, and where recollection of the past is of the greatest importance some form of specialization is inevitable. Thus some American field workers describe the use of Indian informants who work for six or eight hours a day for a definite rate of pay, and the names of the informants are usually published so that they can be consulted by other scientists. In this case the giving of information amounts almost to a whole time job, and in a sense the informant becomes himself an anthropologist. All anthropologists, however, tend to select a few men and women in each community who are responsive and seem intelligent. The interests of the selected informants are bound to be thereby deflected in certain directions.

The degree to which the interview can be relied upon as a source of information depends on several factors, such as the object of the study. If an investigation aims at historical reconstruction, most of the data will have to be obtained by interview, while in the case of a sociological investigation there is a tendency to limit formal questioning more and more, or to use it in a different way.

Moreover the amount of social history which is traditionally standardized in the community differs greatly. For instance, Polynesians will recite long genealogies in a way that would be unusual among most African peoples. Radin comments on the "prodigious memory" of a Winnebago Indian, who described a

[1] At an early stage of the work all information is useful, and the anthropologist is often grateful to any native who is willing to talk with him.

complex ceremony to him over a period of two months, working six hours a day (84, 85).

There are, of course, a number of points on which the native is unable to formulate answers when questioned. His intellectual habits often differ from our own; to our mind he may lack any conception of mathematical precision, while our inability to judge distances and time without the aid of a yard measure and a watch seem as remarkable to him.

The sphere of conduct about which people are able to generalize also varies markedly from culture to culture. Thus the European states readily how many hours he works, and is quite aware of the amount of money he earns, but the native may be quite unaccustomed to reckoning the contents of his granary or the time it takes him to cultivate his garden. On the other hand, an Englishman probably cannot tell you what his behaviour to his father's sister ought to be, whereas a Melanesian or African usually can. Whenever the anthropologist is unable to get his information about objective reality by means of the interview, he must resort to observation of behaviour.

The use of the anthropological interview for purposes other than obtaining direct information is becoming more common in intensive sociological investigations, and its importance in eliciting the emotional attitudes and points of view of different sections of the community is particularly great in the case of rapidly changing societies. In fact, many anthropologists have felt it necessary to quote verbatim the whole of a statement made by a native in answer to a question designed to elicit his point of view. It must be emphasized, however, that the anthropologist, unlike the psychologist or social worker, is not concerned to discover individual psychological peculiarities, but only attitudes that are traditionally defined for the whole group or different classes in it. He is also not in a position to distinguish different types of individuals or attitudes until he has lived for some time in the native community. The questionnaires on the pacifist tendencies of American students, referred to in Chapters I (Section III) and IX (Section III), were drafted by psychologists who were fully aware of the main differences in opinion that existed in their community. The anthropologist only becomes familiar with such trends after a long time.

E. SPEECH IN ACTION [1]

Besides questioning his informants, the anthropologist listens to speech between natives in the natural context of their daily life. He may wish to record traditionally standardized forms such as prayers and spells, which can be collected only in the course of the ceremony in which they are being used; to collect information unlikely to be given in direct answer to a question, but sometimes vouchsafed during the performance of an associated act, or overheard in casual conversation between natives; or to discover the patterns of verbal behaviour characteristic of different forms of social relationship. The dominant interests of a people can usually best be ascertained by listening to what they talk about and noting their spontaneous reactions, which may not always conform to the orthodox tribal rule. The field anthropologist has perhaps made more use of his opportunities for listening to everyday conversations, as distinct from the statements made in formal interviews, than has the sociologist or psychologist in a modern society.[2] Child psychologists often observe the speech behaviour of children in groups (cf. Chapter IV), but in the case of adults this has less often been done systematically.

The recording of speech in action is a difficult task. In the case of spells and prayers the anthropologist can collect the traditional forms with comparative ease. When listening to ordinary conversation he is forced to select. A continuous phonographic record would be his only means of representing accurately all that was said on any one occasion, and it is doubtful whether such a record would be of much sociological value in itself. To decide which remarks are ' typical ' or ' atypical ' in any given situation, or most expressive of a tribal attitude, the anthropologist must rely in the last analysis on his own judgment, matured during months of listening to similar conversations. To give readers the results of such a selection different expedients have been tried. Malinowski has analysed many speech forms in their natural context, particularly magic utterances and phrases used to co-ordinate technical activities (65). Firth

[1] Cf. Malinowski (65) for the development of this concept.

[2] The " Mass-Observation " movement attempts such methods (cf. Jennings, H., and Madge, C. (ed.), *May the Twelfth : Mass-Observation Day-Surveys*, 1937, London, Faber and Faber, 1937, pp. 431).

has given samples of conversations picked at random from notes taken in a native log-house, on a beach, or at a dance (25).

Hunter, in accounts of Pondo beer-parties, gives the number of subjects discussed in a given time, and examples of the types of joke made (47). It it here that anthropologists need to assess far more accurately than they have done their selective interests and powers of memory. Lindgren's suggestion that they should undergo memory tests is of value (57).

F. QUESTIONNAIRES

Questionnaires have been the basis of many sociological investigations in civilized communities. Although they are obviously of more limited use in the case of primitive peoples, they have been applied to some extent, either to collect information or, more rarely, to reflect attitudes and points of view. Such questionnaires may be divided into two classes.

1. *Questionnaires Addressed to European Residents among Primitive Peoples*

Examples are Morgan's questionnaire on the subject of kinship terms, addressed by the Secretary of State to 139 diplomatic representatives (1860); Thurnwald's on general economic conditions, addressed to Government officials in East Africa (112); and that prepared by the Belgian Colonial Institute for administrative officers in the Congo, from which monographs on the Central Bantu are now being compiled (113). H. D. Anderson and W. C. Eells tried a new experiment in assessing the temperament of a primitive people by getting thirty-four residents in Alaska, including native Eskimos, whites married to Eskimos, missionaries, teachers, and scientists to rate the natives for various traits, such as hospitality, modesty, social mindedness, and joyfulness (1). While it is admitted that most of the information about native customs required for administrative purposes has been acquired through the medium of Europeans living in the district, by means of questionnaires, evidence given before Commissions, or other means, yet from an anthropological point of view the results of this method have been very disappointing. It has been shown again and again that it is possible for a foreigner to live among native peoples for a lifetime and yet to have very little real contact with them, and no exact knowledge of their customs and beliefs. There are, of course,

exceptions, as the important ethnographic contributions of a number of missionaries and administrators show (cf. Sections I and II, A, E).

2. *Questionnaires Addressed to Literate Members of the Native Community*

These have been widely used in American distribution studies. Field workers in Africa have also used educated clerks both for keeping case records and for answering questionnaires. Schapera has employed literate Africans in a Tswana town to write accounts of their daily life and of important events occurring during his absence, and to keep budgets of their expenditure, as has also E. Hellmann in Johannesburg.[1] In Tanganyika, Basutoland, and Swaziland, A. T. and G. M. Culwick, E. H. Ashton, and H. Beamer, respectively, have collected diet diaries from educated natives, and the Nigerian Government has tried the same expedient. Questionnaires have often been addressed to native teachers and clerks, one being used by the Merle Davis Commission to South Africa and Northern Rhodesia (21). These questionnaires have hitherto been more successful in recording concrete facts than in defining attitudes and points of view, and it must be remembered that many literate natives in Africa, for instance, are quite unaccustomed to the routine of question and answer to which European children become accustomed at school.

G. BIOGRAPHIES AND AUTOBIOGRAPHIES

Radin published in 1920 the autobiography of an Indian written in his own words (84), which has been followed by a number of similar publications (75, 111). There is no doubt that much valuable supplementary information can be obtained about a culture in this way, although as the sole source of information it might be less valuable than an anthropologist's own observations in the same tribe.[2]

[1] See (37); also "Urban native food in Johannesburg," *Africa*, 1936, ix, 277–290.

[2] The account of the mode of life and beliefs of his tribe which E. Demant Hatt persuaded a Kautokeino Lapp to write (1907–8) in Finnish and Lappish, a Danish translation being published by her in 1911, is in a somewhat different category. Accompanied by Mrs. Hatt's notes, and dealing with a subject-matter many aspects of which have been described by Scandinavian and other authors during several centuries, it is a very valuable document (36).—E. J. L.

Biographies have been used mainly for two purposes: to reveal the typical life history of members of the tribe, by selecting some articulate member to describe his life, or to illustrate individual reactions to certain tribal institutions, such as the fasting and Guardian Spirit dreams of many Indian peoples. Success in achieving the second of these objects depends on the amount of introspection common in the tribe, and it may be no accident that the method was first used in connection with the individualistic religion of certain American Indians. An analysis of the differences in the types of information given by writing and by word of mouth would be particularly important to consider in the case of written material provided by native informants, who have only recently acquired the power to read and write, and live in cultures in which the majority are illiterate.

H. CONCRETE DOCUMENTATION

The monographs of early anthropologists usually gave information in the form of categorical statements, e.g. that such and such a tribe was matrilineal, industrious, head-hunting, communistic, or the like. Later the material on which generalizations were based began to be given in concrete form, by describing incidents in daily life, quoting native texts, specifying informants, publishing the numbers of legal cases, and so forth. The distinction between tribal norms and actual practice came to be more clearly recognized, and a tendency to collect instances to show the degree of this divergence has recently been evident. Field workers have started accumulating case material in somewhat the same fashion as the social scientist in modern communities, the influence of whose methods is perceptible in the newer techniques.

The data collected include records of the composition of social groups, clans, villages, and age-sets, and of the incidence of special customs, such as marriage forms. Individual case-histories are not ordinarily used to ascertain the type of maladjustment, ambition, or needs of individuals, as they are by the social worker, but to determine what seems to be the average life history of the members of the tribe, and their reactions to tribal norms. Case material of this kind has been found invaluable in extending the range of the anthropologist's information, and enabling him to generalize about

institutions and behaviour when the natives themselves are unable to do so.[1] Lastly, some attempts have been made to estimate the frequency of particular usages and forms of behaviour.

The development of documentation has been gradual. In 1912 Rivers advocated the collection of genealogies as a means of reconstructing the history of Melanesian kinship usages, and this method is now used as part of the routine analysis of kinship rules, from whatever point of view the study is made. In 1922 Malinowski, under the heading of "concrete documentation", stressed the importance of recording and publishing village plans, land-tenure maps, a quantitative analysis of the distribution of goods, the composition of clans, and accounts of incidents in daily life (64). His recent book on *Coral Gardens and Their Magic* (65) is probably more fully documented by such concrete sociological data than any ethnographical work that has yet appeared. Sociological censuses, especially of villages, designed to show the clan grouping, types of marriage, kinship structure, and movements of population and its spatial configuration, are now commonly given, together with analyses of legal material, whether the cases are heard in a European court or a native one (17, 20, 25, 29, 47, 71, 83, 91).

Mead, originally trained as a child psychologist, has adapted the case-history method in her study of a group of adolescent girls in Samoa, and has submitted some of her results to statistical analysis (71). The use of autobiographies has been described (see Section III, G), and American field workers have probably gone further than those of any other school in the publication of native texts.

Attempts to estimate the native income or standard of living have met with great difficulty. Schapera has made calculations in a Tswana town by means of annual budgets and estimates of the number of cattle and contents of granaries, and information obtained from local traders' books and similar methods of estimating native wealth have been used by the government officials of Nigeria in assessing the annual tax. Daryll Forde has worked out the income in kind, and the annual food production, of a Southern Nigerian village (27). For statistics on income, food production,

[1] Thus an intelligent informant may describe only the most usual type of marriage contract, whereas a house-to-house census may reveal five or six anomalous forms.

and diet, see also the work of the Culwicks (20), Brown and Hutt (17), Hunter (47), Fortes, and Richards.

The question of the statistical expression of anthropological data is also difficult. The investigator is dealing with illiterate people, lacks relevant official statistics, handles a great deal of material which is not capable of being expressed statistically, and above all may not feel able to sacrifice the detailed study of a small community in order to collect data from the wider field necessary for obtaining a satisfactory sample of the whole tribe. Marriage rates and a few such phenomena have been adequately dealt with in this way (37, 47, 53), but it seems possible that a too exclusive desire to obtain objectivity by means of the statistical methods used in modern communities might end in misleading results.

I. DIRECT OBSERVATION OF BEHAVIOUR

Much ethnological material has hitherto consisted in descriptive accounts of a people's environment, material culture, appearance and activities, and this is inevitable in the case of an entirely unfamiliar community. The sociologist writing an account of a modern community does not have to explain what he means by the terms 'bus', 'postman', or 'magistrate's court'; hence the far greater importance of the descriptive technique and the use of information obtained by direct observation in the case of the anthropologist. His observation is of course highly selective. The investigator is chiefly struck by customs which are either quite unfamiliar to him, or very similar to those he has seen in other communities; by acts he knows to be socially significant from previously acquired experience; and by behaviour which his theoretical interests specially predispose him to notice. Sometimes the grounds for his judgment have gradually been noted, largely unconsciously, over a long period.[1] In any case it is obvious that the selection is a very arbitrary one.

Accounts of organized activities such as ceremonial or economic

[1] Thus the observer may go into the field prepared to study the educational methods of the people, and therefore watch carefully for the number of times he sees a child punished; or it may happen that towards the end of his studies he may accidentally see a single child slapped, and realize suddenly that he has never seen such a sight before. Cf. the 'perception' of the skilled social worker, described in Chapter XV, Section VII, C, 2.

enterprises have always figured prominently in ethnographers' monographs, although it is not always possible to tell from the printed version whether the event described has actually been witnessed, or merely reconstructed with the help of informants. The reports of observations have, however, steadily improved in detail, adding to the broad statement of *what* happened, a description of *how* the people behaved and *who* were the actors.[1] Attempts are made to record the usual succession of activities and the natives' use of time, in order to compile a seasonal, monthly, or even daily calendar, not only for the group but for individuals.[2] The observation of unorganized activities, family etiquette, and the gradual process of education of the primitive child was at first neglected, chiefly owing to their lack of dramatic value; but nowadays the anthropologist attempts to include such details of daily behaviour. Again the difficulty lies in selection. To the anthropologist only those forms of individual behaviour are relevant which are traditionally defined, and in the case of certain activities the cultural patterns may be hard to recognize.[3] The remedy seems to be the constant formulation of problems along the lines of the anthropologist's interests, rather than the aimless accumulation of records of daily happenings. It is for the framing and reframing of such inquiries that the advice sometimes given to field workers to spend one week analysing material to every three spent in observation is worth considering.

IV. PRESENTATION OF MATERIAL

In the presentation of his material the anthropologist encounters

[1] The possibility of fuller description obviously varies directly with the ethnographer's knowledge of the culture and the number of correct generalizations about its system of relationships which he has already made. The newcomer may record accurately enough, "The people have gone *bonito* fishing", and a film will give the same information. The ethnographer who understands the social organization of the tribe and is familiar with the villagers can, however, substitute: "*X* has gone *bonito* fishing with *Y* because *Y* is his maternal uncle, and it is his legal obligation to do so. He spat in the air, not to clear his throat, but to invoke the blessing of the spirits."

[2] See Richards, *Land, Labour and Food in Northern Rhodesia*.

[3] Cf. Mead's statement that methods of suckling infants are as much standardized as methods of disposing ritually of the umbilical cord, but that the latter can be elicited by question and answer, the former only by a long process of observation ((73), p. 1).

peculiar difficulties. He must explain the social institutions of a people whose surroundings, material culture, and patterns of behaviour are unfamiliar to most of his readers. If he tries to make his readers ' see ' a village scene, a ceremonial dance, or the passage of daily life inside a hut, he will be conveying impressions which are obviously highly subjective. Since exact terms for describing human behaviour, gait, or expression do not exist, there is a tendency to view such descriptive accounts askance, as unscientific.

When an author fails to distinguish clearly between his own opinions and emotions and those he attributes to members of the tribe, he may, of course, give his readers entirely false ideas. But to omit such vivid eye-witness accounts as he is able to give, often results in the loss of something which may be essential to an understanding of the group's social life. Writers who give abstract analyses of kinship terms without any description of the way the people behave do not necessarily obtain objectivity by this means, for they have merely given their own abstract generalizations, based on what they have observed. Instead of omitting descriptive material, it would seem desirable to attempt a more rigid examination of the personal bias of the observer (cf. Chapter II) and a more precise definition of the terms used to describe human behaviour.[1] The anthropologist's dilemma seems, as in other cases, to be partly due to the fact that he is still trying to combine a general ethnographic account, such as is necessary for general comparative purposes or distribution studies, with a detailed sociological and psychological description of human behaviour.

The presentation of data consisting of native comments and points of view also involves a compromise. To select one informant's statement among many may seem an arbitrary procedure, but to publish all the material recorded is impossible, nor can any quantitative statement of the proportion of the community holding such views or beliefs usually be made. Here again the desire for objectivity

[1] This is obviously particularly important in the case of those field workers who base generalizations about the culture pattern or ethos of a group on subjective impressions, as for instance in the descriptions by Benedict, Mead, and Bateson of the behaviour of different tribes as " Dionysian," " gentle," " swaggering," " jolly," " co-operative," and so forth (cf. (6), (7), and Mead, *Sex and Temperament in Three Primitive Societies*).

has sometimes resulted in the anthropologist's withholding much of the information he possesses, and also the expression of his own judgment. In some of the most important contributions to American ethnography native texts have been published in full, usually with the addition of the full names of the informants, but often without comment.[1] Autobiographies written or dictated by natives have similarly been unaccompanied by explanation.

By such means objectivity in one sense is gained, and the linguistic value of the texts is obvious. But from the sociological point of view the investigator's knowledge of the age, rank, social group, upbringing, and degree of contact with outside cultures of the informant is essential, provided he selects the data he gives systematically and states his reasons for doing so. In studying societies in which the range of variation is great, owing to marked stratification or recent contact with an encroaching culture, there is now a tendency to give examples of native points of view, which contribute more towards a correct general impression of the whole society than an individual autobiography or text without comment can do. Both types of record should obviously be included whenever possible.

The presentation of the data contained in case histories, or accounts of particular incidents, raises similar problems. Material on marriage forms, or divorce rates, is capable of statistical handling, but individual life histories or dramatic incidents in tribal life are not. To publish full lists of incidents illustrating some special aspect of the culture seems impracticable, and it would in any event be exceedingly difficult for a reader without personal experience of the society to form his own generalizations from them. To give anthropological generalizations without presenting the material on which they are based is, however, equally unsatisfactory. A compromise adopted by many modern field workers consists in giving a generalized account of tribal organization, illustrated by a selection of concrete cases. Descriptions of particularly interesting individual variations or incidents may also be added.

[1] Boas has laid great stress on the importance of native texts published without commentary. Gifford lists the names of 150 informants who gave him information for his kinship study in California, without any descriptive analysis (33). Cf. also Radin (85) for critical comments on this procedure.

Some anthropologists [1] have portrayed in some detail the temperament, appearance, and behaviour of a few natives with whom they were closely acquainted, so that their manner of supplying information, and the incidents in which they were involved, are vividly conveyed to the reader.

V. CONCLUSION

Social anthropology is clearly in process of development into an observational science. Its theoretical interests have shifted from the earlier broadly comparative and evolutionary preoccupations and general surveys to more detailed historical reconstruction by means of culture change and distribution studies, on the one hand, and intensive sociological analyses of particular cultures, on the other. The techniques of the field worker have certainly not yet approached the precision of those used by some other social scientists, and perhaps they can never do so, owing to the dimensions of the subject-matter which the anthropologist still expects to cover with his observations, his frequent lack of previous information about the area and culture, and the illiteracy of the peoples concerned. Nevertheless the field anthropologist has probably exerted a considerable influence on investigators of modern societies, primarily because of the broad view of culture which he has been able to attain, his concentration on the characteristics of large functioning groups rather than their subdivisions,[2] his relative lack of identification with the values of the group studied, and his habit of directly observing the behaviour patterns and emotional reactions of every section of society.

REFERENCES

(1) Anderson, H. D., and Eells, W. C., *Alaska Natives*. Stanford University Press, 1935. pp. 472.
(2) Bartlett, Sir F., "Psychological methods and anthropological problems," *Africa*, 1937, x, 4, 401–420.
(3) Bartlett, Sir F., *Psychology and Primitive Culture*. Cambridge University Press, 1923. pp. 294.
(4) Bateson, G., "Culture contact and schismogenesis," *Man*, 1935, xxxv, 199.

[1] E.g. Malinowski, Evans-Pritchard, Firth, and Mead.

[2] Most social surveys of modern communities have been restricted to the classes below the poverty line (cf. Chapter XVIII).

(5) Bateson, G., " Field work in social psychology in New Guinea," *I Congr. Intern. des Sciences Anthrop. Ethnol.*, 1934, 153.
(6) Bateson, G., *Naven.* Cambridge University Press, 1936. pp. 286.
(7) Benedict, R., *Patterns of Culture.* London: Routledge, 1935. pp. 291.
(8) Benedict, R., " Psychological types in the cultures of the southwest," *XXIII Intern. Congr. Americanists*, 1928. New York, 1930, 572–581.
(9) Benedict, R., " Zuni mythology," *Columbia Univ. Contr. to Anthrop.*, xxi. New York: Columbia University Press, 1935. i, pp. 342; ii, pp. 345.
(10) Blackwood, B., " A study of mental testing in relation to anthropology," *Mental Measurements Monographs*, 1927, No. 4. pp. 120.
(11) Boas, F., " Anthropology," *Ency. of the Soc. Sciences* (ed. E. R. A. Seligman). London: Macmillan, 1930, ii, 73–110.
(12) Boas, F., " Introduction," *Publications of the Jesup North Pacific Expedition*, i. *Mem. of the Amer. Mus. of Natur. Hist.*, 1900, ii, 3–6.
(13) Boas, F., " The methods of ethnology," *Amer. Anthrop.*, 1920, xxii, 311–321.
(14) Brown, A. R. Radcliffe-, " The mother's brother in South Africa," *S. African J. of Science*, 1924, xxi, 542–555.
(15) Brown, A. R. Radcliffe-, " The present position of anthropological studies," *Brit. Ass. Adv. Sci.*, Centenary Meeting, 1931, Presidential Address (Section H), 141–171.
(16) Brown, A. R. Radcliffe-, " The social organization of Australian tribes," *Oceania Monographs*, 1931, No. 1. pp. 124.
(17) Brown, G. Gordon, and Hutt, A. McD. Bruce, *Anthropology in Action.* Oxford University Press, 1935. pp. 272.
(18) Chinnery, E. W. P., and Haddon, A. C., " Five new religious cults in British New Guinea," *Hibbert Journal*, 1917, xv, 448–463.
(19) Culwick, A. T., and Culwick, G. M., " Culture contact on the fringe of civilization," *Africa*, 1935, viii, 163–170.
(20) Culwick, A. T., and Culwick, G. M., *Ubena of the Rivers.* London: Allen and Unwin, 1935. pp. 444.
(21) Davis, J. Merle, *Modern Industry and the African.* London: Macmillan, 1933. pp. 425.
(22) Deacon, A. B., *Malekula.* London: Routledge, 1934. pp. 789.
(23) Elkin, A. P., " Social organization in the Kimberley Division," *Oceania*, 1931–2, ii, 296–333.
(24) Elkin, A. P., " Studies in Australian totemism," *Oceania Monographs*, 1933, No. 2. pp. 147.
(25) Firth, R., *We, the Tikopia.* London: Allen and Unwin, 1936. pp 605.
(26) Fison, L., and Howitt, A. W., *Kamilaroi and Kurnai.* Melbourne: Robertson, 1880. pp. 372.
(27) Forde, C. Daryll, " Land and labour in a Cross River village, Southern Nigeria," *Geog. J.*, 1937, xc, 1, 24–51.
(28) Fortes, M., " Culture contact as a dynamic process," *Africa*, 1936, ix, 1, 24–55.

(29) Fortune, R., *Sorcerers of Dobu.* London : Routledge, 1932. pp. 318.
(30) Frazer, J., *Questions on the Customs, Beliefs, and Languages of Savages,* 3rd imp. Cambridge University Press, 1916. pp. 51.
(31) Frobenius, L., and Wilm, R. von (ed.), *Atlas Africanus : Belege zur Morphologie der Afrikanischen Kulturen.* Munich : Beck, 1921–2. 3 vols.
(32) Gennep, A. van, " Tabou et totémisme à Madagascar," *Bibl. de l'École des Hautes Études, Sciences Religieuses,* xvii. Paris : Leroux, 1904. pp. 362.
(33) Gifford, E. W., " Californian kinship terminologies," *Univ. of Calif. Publ. in Amer. Arch. Ethnol.,* 1922, xviii. pp. 285.
(34) Haddon, A. C., *Evolution in Art.* London : Scott, 1895. pp. 364.
(35) Hailey, Lord, *An African Survey.* London : Oxford University Press, 1938. pp. 1662.
(36) Hatt, E. Demant, *Turi's Book of Lappland.* London : Jonathan Cape, 1931. pp. 295.
(37) Hellmann, E., " Native life in a Johannesburg slum yard," *Africa,* 1935, viii, 34–62.
(38) Herskovits, M. J., *Acculturation.* New York : Augustin, 1938. pp. 155.
(39) Herskovits, M. J., *Dahomey, an Ancient West African Kingdom.* New York : Augustin, 1938. i, pp. 402 ; ii, pp. 407.
(40) Herskovits, M. J., *Life in a Haitian Valley.* New York : Knopf, 1937. pp. 350.
(41) Herzog, G., " Special song types in North American Indian music," *Zsch. f. vergl. Musikwissenschaft,* 1935, iii, 1–2, 23–33.
(42) Hocart, A. M., " Lau Islands, Fiji," *Bernice P. Bishop Museum Bull.,* 1929, No. 62. Honolulu. pp. 241.
(43) Hogbin, I., " Culture change in the Solomons," *Oceania,* 1934, iv, 233–267.
(44) Hogbin, I., *Law and Order in Polynesia.* London : Christophers, 1934. pp. 296.
(45) Hunter, M., " Methods of study of culture contact," *Africa,* 1934, vii, 335–350.
(46) Hunter, M., " Notes on changes in Xosa resulting from contact with Europeans," *Africa,* 1934, vii, 100–104.
(47) Hunter, M., *Reaction to Conquest.* Oxford University Press, 1936. pp. 582.
(48) Ivens, W. G., *Melanesians of the South-east Solomon Islands.* London : Kegan Paul, 1927. pp. 529.
(49) Keesing, F. M., " The changing Maori," *Mem. of the Board of Maori Ethnol. Res.,* 4. New Plymouth, N.Z. : Avery, 1928. pp. 198.
(50) Keesing, F. M., *Modern Samoa.* London : Allen and Unwin, 1934. pp. 506.
(51) Klimek, S., " Culture element distributions," *Univ. of Calif. Publ. in Amer. Arch. Ethnol.,* 1935, xxxvii, 1, 1–70; (with Gifford, E. W.), 1936, xxxvii, 2, 71–100.
(52) Koppers, W., *Unter Feuerland Indianern.* Stuttgart : Strecker and Schröder, 1924. pp. 243.

(53) Krige, E., "Changing conditions in marital relations and parental duties among urbanized natives," *Africa*, 1936, ix, 1–23.
(54) Kroeber, A. L., and Driver, H. E., "Quantitative expression of cultural relationships," *Univ. of Calif. Publ. in Amer. Arch. Ethnol.*, 1932, xxxi, 211–256.
(55) Lesser, A., "The Pawnee Ghost Dance hand game," *Columbia Univ. Contr. to Anthrop.*, xvi. New York: Columbia University Press, 1933. pp. 337.
(56) Lindgren, E. J., "An example of culture contact without conflict," *Amer. Anthrop.*, 1938, xl, 4, 605–621.
(57) Lindgren, E. J., "Field work in social psychology," *Brit. J. of Psychol.*, 1935, xxxvi, 2, 174–182.
(58) Lindgren, E. J., "Field work in social psychology in Eastern Asia," *I Congr. Intern. des Sciences Anthrop. Ethnol.*, 1934, 152–3.
(59) Linton, R., *The Study of Man*. New York: Appleton-Century, 1936. pp. 503.
(60) Lowie, R. H., *The Crow Indians*. New York: Farrar and Rinehart, 1935. pp. 350.
(61) Lynd, R. S., and Lynd, H. M., *Middletown*. London: Constable, 1929. pp. 550.
(62) Mair, L. P., *An African People in the Twentieth Century*. London: Routledge, 1934. pp. 300.
(63) Mair, L. P., "The study of culture contact as a practical problem," *Africa*, 1934, vii, 4, 415–422.
(64) Malinowski, B., *Argonauts of the Western Pacific*. London: Routledge, 1922. pp. 527.
(65) Malinowski, B., *Coral Gardens and Their Magic*. London: Allen and Unwin, 1935. i, pp. 500; ii, pp. 350.
(66) Malinowski, B., "Culture," *Ency. of the Soc. Sciences* (ed. E. R. A. Seligman), 1931, iv, 621–646.
(67) Malinowski, B., "Introductory essay: the anthropology of changing African cultures," in "Methods of study of culture contact in Africa," *Intern. Inst. of African Languages and Cultures*, Memo. xv, London: Oxford University Press, 1938, vii–xxxviii.
(68) Malinowski, B., "Practical anthropology," *Africa*, 1929, ii, 22–38.
(69) Malinowski, B., *The Sexual Life of Savages*. London: Routledge, 1929. pp. 506.
(70) Mead, M., "The changing culture of an Indian tribe," *Columbia Univ. Contr. to Anthrop.*, xv. New York: Columbia University Press, 1932. pp. 313.
(71) Mead, M., *Coming of Age in Samoa*. London: Jonathan Cape, 1929. pp. 297.
(72) Mead, M., "An investigation of the thought of primitive children," *J. Roy. Anthrop. Inst.*, 1932, lxii, 173–190.
(73) Mead, M., "More comprehensive field methods," *Amer. Anthrop.*, 1933, xxxv, 1, 1–15.
(74) Meek, C. K., *A Sudanese Kingdom*. London: Kegan Paul, 1931. pp. 548.

(75) Michelson, T., " Narrative of an Arapaho woman," *Amer. Anthrop.*, 1933, xxxv, 4, 595–610.
(76) Mills, J. P., *The Ao Nagas*. London : Macmillan, 1926. pp. 500.
(77) Myres, J. L., " The science of man in the service of the state," *J. Roy. Anthrop. Inst.*, 1929, lix, 19–52.
(78) Nadel, S. F., " The typological approach to culture," *Character and Personality*, 1937, v, 4, 267–284.
(79) *Notes and Queries on Anthropology*, 1st ed. London : Stanford, 1874. pp. 146.
(80) *Notes and Queries on Anthropology*, 5th ed. London : The Royal Anthropological Institute, 1929. pp. 404.
(81) Oliver, R. A. C., " The adaptation of intelligence tests to tropical Africans," *Overseas Education*, 1933, iv, 186–192 ; v, 8–13.
(82) Porteous, S. D., *The Psychology of a Primitive People*. London : Arnold, 1931. pp. 438.
(83) Pritchard, E. E. Evans-, *Witchcraft, Oracles and Magic Among the Azande*. Oxford : Clarendon Press, 1937. pp. 558.
(84) Radin, P., " The autobiography of a Winnebago Indian," *Univ. of Calif. Publ. in Amer. Arch. Ethnol.*, 1920, xvi, 381–473. (Republished as *Crashing Thunder*. New York, 1927).
(85) Radin, P., *The Method and Theory of Ethnology*. London : McGraw-Hill, 1933. pp. 278.
(86) Rasmussen, K., " The Netsilik Eskimos," *Report of the Fifth Thule Expedition*, 1921–4, viii. Copenhagen, 1931. pp. 542.
(87) Read, M., " Native standards of living and African culture change," *Intern. Inst. of African Languages and Cultures*, Memo. xvi. London : Oxford University Press, 1938. pp. 56.
(88) Redfield, R., " Tepoztlan, a Mexican village," *Univ. of Chicago Publ. in Anthrop., Ethnol. Series*. University of Chicago Press, 1930. pp. 247.
(89) *Reports of the Cambridge Anthropological Expedition to Torres Straits*. Cambridge University Press, 1901–1935. 6 vols.
(90) Richards, A. I., " Anthropological problems in North-Eastern Rhodesia," *Africa*, 1932, v, 121–144.
(91) Richards, A. I., " The village census in the study of culture contact," *Africa*, 1935, viii, 20–33.
(92) Rivers, G. H. L.-F. Pitt-, *The Clash of Culture and the Contact of Races*. London : Routledge, 1927. pp. 312.
(93) Rivers, W. H. R., " A genealogical method of collecting social and vital statistics," *J. Roy. Anthrop. Inst.*, 1900, xxx, 74–82.
(94) Rivers, W. H. R., *The History of Melanesian Society*. Cambridge University Press, 1914. i, pp. 400 ; ii, pp. 610.
(95) Roheim, G., *Australian Totemism : A Psycho-Analytic Study in Anthropology*. London : Allen and Unwin, 1925. pp. 487.
(96) Roscoe, J., *The Baganda*. London : Macmillan, 1911. pp. 547.
(97) Roscoe J., *The Bakitara*. Cambridge University Press, 1923. pp. 370.
(98) Roscoe, J., *The Northern Bantu*. Cambridge University Press, 1915. pp. 305.

(99) Sapir, E., "Time perspective in aboriginal American culture," *Geol. Survey of Canada, Anthrop. Series*, 1916, No. 13. pp. 86.
(100) Schapera, I., "Economic changes in South African native life," *Africa*, 1928, i, 170–188.
(101) Schapera, I., "Field methods in the study of modern culture contacts," *Africa*, 1935, viii, 3, 315–328.
(102) Schebesta, P., *Bambuti, die Zwerge vom Kongo*. Leipzig: Brockhaus, 1932. pp. 270.
(103) Schebesta, P., *Bei den Urwaldzwergen von Malaya*. Leipzig: Brockhaus, 1927. pp. 278.
(104) Seligman, C. G., "Anthropology, Applied," *Ency. Brit.*, 14th ed., ii, 1929, 46–50.
(105) Seligman, C. G., *The Melanesians of British New Guinea*. Cambridge University Press, 1910. pp. 766.
(106) Seligman, C. G., and Seligman, B. Z., *The Pagan Tribes of the Nilotic Sudan*. London: Routledge, 1932. pp. 565.
(107) Seligman, C. G., "The unconscious in relation to anthropology," *Brit. J. of Psychol.*, 1928, xviii, 373–387.
(108) Smith, E. W., *The Golden Stool*. London: Edinburgh House Press, 1927. pp. 344.
(109) Spier, L., "Klamath ethnography," *Univ. of Calif. Publ. in Amer. Arch. Ethnol.*, 1930, xxx. pp. 338.
(110) Spier, L., "The sun dance of the Plains Indians," *Anthrop. Papers of the Amer. Mus. of Natur. Hist.*, 1921, xvi, 451–527.
(111) Steward, J. H., "Two Paiute autobiographies," *Univ. of Calif. Publ. in Amer. Arch. Ethnol.*, 1934, xxxiii, 423–438.
(112) Thurnwald, R. C., *Black and White in East Africa*. London: Routledge, 1935. pp. 419.
(113) Verhulpen, E., *Baluba et Balubaïsés du Katanga*. Antwerp: L'Avenir Belge, 1936. pp. 534.
(114) Wagner, G., "The study of culture contact and the determination of policy," *Africa*, 1936, ix, 317–331.
(115) Williams, F. E., *Orokaiva Magic*. London: Oxford University Press, 1928. pp. 231.
(116) Williams, F. E., "The Vailala madness and the destruction of native ceremonies in the Gulf Division," *Territory of Papua, Anthrop. Reports*, No. 4. Port Moresby, 1933. pp. 78.
(117) Wissler, Clark, *The American Indian*. London: Oxford University Press, 1922. pp. 474.
(118) Wissler, Clark, *Man and Culture*. London: Harrap, 1923. pp. 371.

Chapter XIII

THE INTERVIEW TECHNIQUE IN SOCIAL ANTHROPOLOGY

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I. THE PROBLEM

The general nature of the interview, which consists in the amassing of information by means of direct or indirect questioning,[1] remains the same in whatever field of science the interview technique is applied. Such differences as arise are determined not merely by the different kinds of information which are to be obtained, but also by differences in the significance which the situation involved may possess both for the interviewer and for the interviewed. These include differences in the aim of the interview; in the attitude, intellectual, emotional and moral, with which the interviewed reacts to the topic under discussion; and in the social recognition of the interview situation as such.

The question of aim involves the problem of the scientific evaluation of the information obtained, as revealing facts about the personality of the interviewed, or as describing an 'objective reality' on which the interviewed can impart information, or as bearing on both. The psychotherapist (see Chapter III) is likely to lay most stress upon what he can discover concerning the personality of his patient; the social worker is likely to give as much attention to what he is able to discover about 'objective reality'. The anthropologist usually employs the interview exclusively to obtain information about the 'objective facts' of culture and society; in other words, the person interviewed is assigned the role of an 'informant'. The personality of the informant interests the anthropologist mainly in so far as it adds to his knowledge of social

[1] See Chapter II, Section II, B.

and cultural facts. At the same time the anthropologist cannot afford wholly to neglect the emotional and moral attitudes of his informants. They may indicate varieties of effective social and individual incentives, they may throw light upon forms of resistance, and they may show how far successful co-operation between interviewer and informant can be achieved. Finally, any social recognition of the interview situation raises questions of the social role which interviewer and informant can or must assume, or be assigned, in a given society.

Before these matters are further discussed, however, another point of theoretical interest must be considered, namely, the part that the success or failure of the interview plays in different provinces of science. If it is true that the psychiatrist concentrates almost wholly upon problems concerning the personality of his patient, perhaps for him no interview can ever be a complete 'failure'; even the most negative reactions of the patient have their diagnostic significance. In social work generally (see Chapter XV), and in vocational guidance in particular (see Chapter XI), the failure of the interview may obstruct the main source of information. It might be expected that in anthropology, with its pursuit of 'objective facts', the failure of an interview would be equally serious. In fact, the success or failure of an interview, irrespective of the information which it produces or fails to produce, may itself be of diagnostic value to the student of culture. For the 'objective reality' with which the anthropologist is dealing is a social reality, and the informant and his responses are themselves elements and factors in this social reality.

II. AIMS, ADVANTAGES AND LIMITATIONS OF THE INTERVIEW

In anthropology the interview should if possible always be combined with direct observation. Observation can be used to check information obtained in interviews, and interviews to obtain information about facts which have been or are being observed. At the same time interviews yield some types of information which cannot be checked by direct observation. Certain social facts which the anthropologist is studying, such as traditions, genealogies, beliefs, or ideas about morality, although invariably reflected in

overt behaviour, exist only in the minds of the people. The actions and attitudes of the members of a kinship group express kinship relations as defined in the genealogical table; the reactions of people to certain human acts reflect their moral judgments and ideas. But theory and observable behaviour are not simply expressions one of another. There may be divergences between theory and practice, between established ideas about behaviour and the forms of behaviour themselves.

Where observation fails as a means of checking information, one interview must be checked by other interviews. The information thus collected will rarely coincide completely. Different individuals often describe the same facts differently, owing to a difference in point of view, or in degree of knowledge, accuracy, or insight. Occasionally one man may be the only informant in existence for the facts required, such as a priest with exclusive knowledge of a cult, or a chief who alone remembers certain tribal myths and traditions. Even in a case of this kind something may be done by repeated interviews, with varied approach. Should that be impossible, the cautious inquirer will always report that in the instance in question the 'facts' consist in particular individual interpretations.

Normally, however, the extent of the diffusion and differentiation of knowledge among the members of a community is itself of considerable sociological significance. The reliable or unreliable, accurate or inaccurate, data obtained from informants reflect not only individual differences of intellect and personality, but also the pervasiveness and effectiveness of certain social and cultural influences. Inaccurate and biased information may indicate attitudes towards objective facts which, distorted though they appear to us, are in accordance with those standards of evaluation and interpretation which are current in the particular society. For example, gross exaggeration in all statements relating to an informant's economic position or social success is the rule in one society, while in another custom demands under-statement whenever an informant is talking about his own family, the number of his wives and children, or similar matters. Inaccurate information may indicate, further, a limited horizon characteristic of the social section or group to which the informant happens to belong. In most societies old men have a fuller insight into cultural situations than young

men, and men a fuller insight than women. The reliability of information on ritual matters will reflect the social distinction between initiates and the uninitiates or novices, while in stratified societies the range of social knowledge may be correlated with position on the social scale.

The personal qualities of the informant, his intelligence and character, are equally relevant to his usefulness and reliability. In the course of the first few interviews the intelligence of the informant is comparatively easily assessed, in the sense of ascertaining whether he can readily be made to understand the anthropologist's questions and to follow his arguments.[1] But the anthropologist is also justified in assuming that he is able to size up his informants' character to some extent, and conclude from their behaviour during interviews whether they are deliberately lying, or are giving information to the best of their knowledge. Familiarity with a group and its culture, with the modes of behaviour and the range of expression habitual in the group, no doubt increases the ability to recognize when an informant is acting in good faith. In any case this aspect of " practical psychology ", difficult though it is to define in precise terms, is of undeniable importance to any interviewer.

In *Notes and Queries on Anthropology* (3) the rule is laid down that in the anthropological interview " the abstract should always be approached through the concrete " (pp. 24, 31).[2] This rule, which is meant to warn the field-worker against pursuing certain abortive lines of inquiry, is based on the assumption that the trend of native languages, and indeed of the native mind in general, is towards the concrete, and consequently that a discussion centring on concrete instances and events is usually more likely to yield reliable information. This is not the place to consider the intricate problems of " primitive thought " and the part that abstraction plays in it.[3] But I should like to point out that concentration on concrete descriptions alone must produce an incomplete picture of any culture. The important thing is to bear in mind the sociologically

[1] The problem of assessing native intelligence from a scientific point of view is discussed in Chapter VIII.

[2] Cf. also (2) : " Though we cannot ask a native about abstract, general rules, we can always enquire how a given case would be treated " (pp. 12 ff.).

[3] Cf. Chapter VIII.

different significance of abstract concepts and concrete description. Ask an informant for concrete instances, and he will probably give you facts from his own experience. Inquire into abstract principles, such as moral concepts, or ideas about good and evil, and he will tend to give you the accepted generalizations of his society. The two types of information must thus complement each other.

III. INCENTIVES

Some of the anthropologist's material is gathered through chance interviews, through information obtained *ad hoc* from people whom he watches at work or in the act of carrying out some particular activity. To a much larger extent, however, the anthropologist must rely on a more elaborate type of interview, in which the informants should be prepared, and able, to give a coherent account of, say, a certain practice, or to enumerate varieties of kinship relation and name the individuals so related.

This intensive type of interview involves a certain technical difficulty which does not occur in the short and less exacting chance interview. The attention and interest of informants must be stimulated and maintained. Very rarely does it happen that both interviewer and informant are inspired by the single incentive of scientific interest, by a whole-hearted desire to elucidate the problem under discussion fully and satisfactorily. The anthropologist more often finds it difficult to keep his informants' attention on one topic for long, or even to direct it at all to certain facts the relevance of which they fail to grasp. Natives are often ready and keen to discuss, for example, the more spectacular aspects of chieftainship or of mythology, and the more striking features of religious ceremonies; but they may at once become bored and unwilling to talk when the discussion turns to more technical questions bearing on chieftainship or ritual procedure, or to prosaic matters of everyday routine. Moreover, there exist in almost every native society certain secret, forbidden topics about which no informant likes to talk, especially to a stranger.

It is not easy to overcome this lack of incentive. Some informants can be trained to adopt a more detached attitude towards the facts of their own culture, and thus to some extent, at least, make the anthropologist's interest their own. Many field-workers rely, in the case of certain special inquiries, on one or two trained informants.

There is a danger, however, that the informant may too readily adopt the investigator's point of view and categories, or what he believes these to be. While the investigator uses them only as tentative concepts, ready to be readjusted in the light of fresh information, the 'trained' informant may treat them as rigidly fixed and final, and exclude or distort valuable information as a result. An instance of this occurred during my field work in Nigeria, when I tried to use a highly educated native school-teacher as a 'key informant' in connection with topics which I found it difficult to investigate myself, such as the sexual life of the tribe. He had picked up a little scientific jargon in the course of his training and reading, and he had also seen me carefully investigating the question of the influence of the physical environment, climate, and disease upon the society in question. His keenness to collaborate was undeniable, but his sophistication blurred his view, as when he earnestly endeavoured to prove to me that the sexual life of his tribe was particularly intensive because, as he put it, "the hot climate made the people like this."

Where the link of a common quasi-scientific interest between interviewer and informant does not exist, the anthropologist has to depend on indirect incentives to stimulate the informant's interest or to prevent it from flagging. Promise of money is a clumsy and often dangerous, but frequently indispensable incentive.[1] As a rule the most successful approach lies in stimulating the informant emotionally and thus overcoming his indolence, or his reluctance to discuss certain points. Many anthropologists have found that by talking to their informants about other countries and their cultures, even about Europe and western society, they were able to excite curiosity and interest. The comparison of foreign customs and usages with those common in the informant's own society may lead to fruitful co-operation, and if the pride and local 'patriotism' of the native informants can be aroused, a valuable exchange of information results.[2]

[1] Evidently the effectiveness of this incentive varies considerably with cultural conditions and the degree of appreciation of earnings and property. Firth (1) says rightly: "In my experience the old anthropologist's maxim never to pay for information is not applicable in a community where individual or family privileges are jealously conserved" (p. 7).

[2] (3), pp. 18, 20, 41.

It is important to bear in mind that in all such cases culturally established standards of evaluation may play an important part. The native informant may tend to overstate the case, stressing similarities or differences which are not really to be found, in order to prove that his culture is the same as that of the anthropologist, or of another tribe, or that it is fundamentally different from these. This type of approach, in fact, probably more than any other, may induce an informant to describe the accepted theory or 'ideology' of what his society is, rather than to give an objective picture of it.

In the case of interviews which bear on secret and forbidden topics, I have found it most profitable to stimulate the emotionality of a few chief informants to the extent of arousing almost violent disputes and controversies. The expression of doubt and disbelief on the part of the interviewer, or the arrangement of interviews with several informants, some of whom, owing to their social position, were certain to produce inaccurate information, easily induced the key informant to disregard his usual reluctance and to speak openly, if only to confound his opponents and critics.

A 'bullying' technique of this type amounts to the deliberate introduction of leading questions, a practice against which field workers are frequently warned.[1] But the leading question has its legitimate place in the anthropological, as in other interviews, provided that it is handled carefully and, above all, with full knowledge of its dangerous nature. The risks which this technique involves are not negligible; wrongly applied, it may lead to complete misinformation. It should only be used when the investigator already has a good working knowledge of the group and its culture. The culture of the tribe in which I successfully employed it is characterized by marked individual competition, jealousy and vanity. The same technique might fail completely in a group where these incentives are less strongly pronounced.[2] Although hardly any comparable observations seem to have been made on this point elsewhere, it seems probable that the interview can be used to compare the operation of incentives in different cultures. If so this illustrates further the way in which the interview technique,

[1] See, e.g., (3), p. 25.

[2] It might also fail if applied by interviewers whose own psychological characteristics did not easily lend themselves to turning interviews into such tense, duel-like affairs.

irrespective of the objective information which it is primarily designed to produce, may be of diagnostic value to the anthropologist.

When an interview is carried out under field conditions, it is frequently impossible for the interviewer to follow a fixed plan of inquiry. Nevertheless the anthropologist will often find it useful to work out in advance a rough questionnaire covering all the topics which he wishes to discuss. This is especially valuable when the investigation has reached a comparatively advanced stage. In an uncharted field, on the other hand, the discussion may at any moment lead to completely new and unforeseen facts which force the investigator to abandon altogether any plan that he may have made.

A questionnaire can be used systematically only with trained informants. In other cases the native manner of thinking, often apparently circuitous, must be followed. The investigator must be sensitive to native predilections and aversions, and he must, above all, be prepared for a quick flagging of interest if the discussion centres for long on one topic. A judicious choice between canalizing the flow of discussion and giving free play to the informant's train of thought is the only course which the anthropologist can follow.[1]

The question of note-taking during an interview may be mentioned in this connection. It is frequently found that informants are seriously disturbed by a note-book and pencil. The anthropologist may also be unable to keep pace with the conversation, and his interruptions and requests for the repetition of statements may quickly exhaust the native's patience. In my own case, however, I found that after a time my regular informants not only did not object to my note-book, but even insisted on my taking out paper and pencil before they began to talk. They realized that the paper

[1] This procedure, as is justly emphasized in *Notes and Queries* (3), may be repugnant to, and indeed difficult for, " the person with an ' orderly mind ' " (p. 26). Here, as indeed always in the " actual method of observing and recording in fieldwork (the) imponderabilia of actual life and of typical behaviour . . . the personal equation of the observer " will exercise a very definite influence ((2), p. 20). In order to neutralize this influence it is obviously of the utmost importance to the anthropologist to ' know himself ', to be fully conscious of his mental predispositions and inclinations (cf. Chapter XII, Section IV).

and pencil indicated that I was taking their information seriously. It would obviously be unsafe to generalize too widely from my own experience, however. The method which the anthropologist can most profitably adopt with regard to note-taking must clearly depend on other considerations as well, such as whether he records statements in the vernacular or in translation, on his ability to write quickly or to use shorthand, and, above all, on his memory.

IV. THE SOCIAL ROLE OF THE INTERVIEWER

This discussion has hitherto assumed that the native peoples whom the anthropologist is studying are ready to recognize his position as a student of their culture, and the legitimacy of his work, which makes him the interviewer and turns them into informants. Very frequently this recognition is relatively passive, the native informants failing to show any desire to confide spontaneously in the anthropologist, or to take the initiative in seeking an interview themselves. This customary lack of initiative on the part of the informants constitutes a characteristic difference between the anthropological interview and that of the psychotherapist and of the social worker. The question arises whether the anthropologist has any means of securing a position which will bring him the more active and ready co-operation of the natives. It bears, indeed, on the general problem of the social role which the investigator can assume, or is assigned, in his work with a primitive people.

The social role of the anthropologist is defined to a large extent by the differences, racial and social, which separate him from the members of the native group. They establish his position as an outsider, a stranger, interested in the society in which he is staying as a visitor or guest. The security of his position will be influenced by the general attitude of the society towards strangers, who may be accepted readily, or viewed with suspicion and resentment. In some instances the very fact that the anthropologist has a unique position in relation to the native culture, and stands absolutely outside it, helps rather than hinders him in his work.

The degree to which foreigners are generally known in an area and the nature of their contacts with the natives will often define the kind of attitude with which the native meets the anthropologist.

Thus European anthropologists occasionally find it difficult to explain their special interest and their detached position to communities for which all ' white men ' fall into three categories : government officials, missionaries, and traders. The anthropologist may, on the other hand, find it profitable to utilize the established prestige and authority which members of his cultural group enjoy in certain parts of the world. Superior knowledge in practical matters such as medicine, and even the influence with the politically dominant group which he sometimes possesses, may contribute towards creating for him the privileged position of a special friend and helper in need. This certainly is an aid in his scientific work, and encourages active interest and co-operation on the part of the natives. The matters concerning which they spontaneously ask his advice and assistance frequently afford him most valuable anthropological information.

It is the ambition of many anthropologists to attain a relationship of still deeper intimacy and to be regarded as " one of the tribe ", or to be admitted into certain orders and esoteric groups within the tribe. An adoption of this kind is often possible, and the writer has himself had this experience. Its value lies in the opportunity it provides of seeing and studying at close range activities which are disclosed as a rule only to initiates. At the same time this adoption is, essentially, external and superficial. The anthropologist can only be a ' freak ' member of the group, not only because of the conspicuous differences in physical characteristics which often exist, but also because of inevitable social incompatibilities. The anthropologist may, for example, be admitted into the circle of the tribal elders, but obviously his experience cannot be equal to that of his ' colleagues ' ; moreover, he may be a young man, his appearance thus betraying at once the exceptional nature of his position. He may be admitted to secret rites, yet disregard with impunity important ritual rules, such as food taboos and submission to severe flogging in an initiation ceremony. He may, finally, decline some of the rights and prerogatives which go with his position as a full member of the group, including the slightly embarrassing privilege of being granted, as a sign of the greatest honour, a wife or several wives.[1]

[1] Cf. Firth (1) : " Conformity to their customs (the people) take not so much as a compliment as a natural adaptation ; in a specific ceremony

The scientific value of full adoption into a native community is also limited. The acquisition of a definite place and social role within a community may involve the loss of the advantages of a detached observer. In stratified or rigidly subdivided societies a social place can be assumed in one stratum or section only, and estrangement from the people belonging to other strata or sections, and even their enmity, may result. Thus in the Nigerian society in which I worked, close friendship with the alien, Mohammedan ruler caste aroused the suspicion of the pagan aboriginal peasant population, and vice versa. The only solution is to emphasize the detached, impartial, scientific aim of an investigator from outside, and so to capitalize what has been termed, in another chapter [1] of this book, his ' stranger value '.

REFERENCES

(1) Firth, R., *We, The Tikopia.* London : Allen and Unwin, 1936. pp. 605.
(2) Malinowski, B., *Argonauts of the Western Pacific.* London : Routledge, 1922. pp. 527.
(3) *Notes and Queries on Anthropology*, 5th ed. London : The Royal Anthropological Institute, 1929. pp. 404.

they can conceive only of participants, not of observers. At such a time one cannot be outside the group, one must be of it. . . . At the same time the fact that one wears different clothing, usually sleeps in one's own house . . . and acts in so many things as an independent unit, not as a member of a group, always prevents complete absorption into one's native surroundings " (p. 11).

[1] XVI.

Chapter XIV

THE COLLECTION AND ANALYSIS OF FOLK-LORE [1]

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I. THE SCOPE OF FOLKLORISTIC STUDIES

The English term ' folk-lore ', coined by W. J. Thoms in 1846 to replace the expression ' popular antiquities ',[2] is applied primarily to oral traditions of all kinds, including not only tales, legends, ballads, and proverbs, but superstitions, plant and animal lore, folk-dances and -dramas, custom, and ritual. In " The handbook of folk-lore ", published in 1913 (21), social and political institutions, the cycle of life, occupations, industries,[3] and games are discussed as well, although these are omitted by, for instance, A. H. Krappe in *The Science of Folk-lore* (49).

The corresponding type of study in Germany, known as *Volkskunde*, deals comprehensively with material culture. In Scandinavia much of the earlier research covered a similarly extensive field (see Section II, A), and while the investigation of folk traditions [4] is now distinguished from that of ' folk life ',[5] which

[1] I am very much indebted to Dr. Å. Campbell, Mr. H. Coote Lake, Professor S. Erixon, and Professor R. D. Jameson for reading the first draft of this chapter, and to them, as well as to Professor M. J. Herskovits, Professor Stith Thompson, and authors of other chapters in the present book, for helpful suggestions which have enabled me to render my brief review of the subject less incomplete than it would otherwise have been.

[2] Cf. (21), p. 1 ; also *A New English Dictionary* (ed. J. A. H. Murray), Oxford, 1901.

[3] Rattray's *Hausa Folk-Lore* (67) contains, besides stories, accounts of marriage customs, circumcision, the tanning and dyeing of leather, etc.

[4] The general Scandinavian term, of which the Swedish form is *folkminne* (used first in 1834, according to von Sydow, (74), p. 2), means literally ' folk memory ', and the study is called *folkminnesforskning* (*forskning* = investigation, research).

[5] Swedish *folkliv* ; the study is commonly called *folklivsforskning*, but *Stockholms Högskola* (University) has adopted the term *nordisk etnologi* (Nordic ethnology) for the investigation of this aspect of the Scandinavian and neighbouring cultures.

centres around material culture and social organization, in the sphere of custom and belief they overlap.[1]

The relationship between the study of European and of primitive folk-lore has also varied in different countries and at different times. In the bibliography of "The handbook of folk-lore" [2] primitive material greatly predominates, in spite of the fact that the European could have been supplemented by references to many Italian, French, German, and Scandinavian collections. The interest of Tylor and Frazer in parallels between primitive and European folk beliefs (see Section IV) has no doubt encouraged this emphasis in England. On the other hand, several German writers have been convinced that 'historic' and 'unhistoric' peoples differ widely and must be studied in different ways.[3] Scandinavian folklorists do not seem to have adopted any *a priori* attitude on the subject, but the development of the 'historical-geographical' method of folk-tale research in Finland, and the amassing of the major collections of material, have been the outcome of work carried out almost exclusively in European cultures, usually by members of the national groups concerned.[4]

II. THE DEVELOPMENT OF THE STUDY OF EUROPEAN FOLK-LORE

Because of the fact that national pride has often stimulated European folklorists, and helped to attract such State and private support as their work has enjoyed, the present position of the study

[1] Cf. (36); also (23), p. 12.

[2] (21), "Authorities cited," App. D, 356–364. The heterogeneity, with regard to both subject-matter and type of culture, which still prevails in the treatment of folk-lore in many countries is well illustrated by the contents of, e.g., *Folk-Lore* for June, 1938 (xlix, 2), which includes contributions on "Films of old customs", "The black dog", "Boats and ships in processions"; 'Collectanea' concerning "The sceptre and crown in Fiji", "The mechanism of the evil eye", "Mad-stones in North Carolina", "Threshold designs", "Wee Harry through the hoop", and "Ladybirds in England"; and reviews of books entitled *Pyrenean Festivals*, *Greek Wolf-Lore*, *La Genèse des Mythes*, and *Religion and Social Organization in Central Polynesia*, etc.

[3] Erixon (31) refers to Steinthal, Bastian, Ratzel, and Max Schmidt, who writes in this vein as recently as 1920; Erixon himself, however, stresses the similarities of social groups.

[4] A signal exception is the study of American Indian material; see Section IV, B, below.

of folk-lore cannot be understood without reference to its background in the past. Since it is impossible even to sketch this background for every country, I shall first review the development of folk-lore research in Sweden, where it is now being very actively pursued, and then summarize its present status in a few other areas.

A. IN SWEDEN

The general description of Swedish peasant [1] life written by Archbishop Olaus Magnus in 1555 (56), though remarkable for its period, lacked objectivity.[2] King Gustavus II Adolphus, however, embodied in a Memorial, dated 20th May, 1630, a definite programme for investigations touching on most aspects of Swedish culture: runic stones and other remains; time reckoning; the traditional laws of crafts and parishes; legends, sagas, and ballads, with their accompanying melodies; the traditions of the nobility, clergy, officials, lawyers, townsmen, and farmers, both as orally transmitted and as recorded in letters, church archives, and libraries; customs surrounding land tenure; mining; housekeeping accounts; methods of fishing, hunting, cattle-breeding, and forestry; popular medicine and weather-lore; material culture, and the dialect terms for all objects; and, finally, the mental characteristics [3] of the people of each district, a matter which, the Memorial states, historians have evidently considered important.[4]

The King is thought to have regarded these inquiries as a means of exalting the noble origin and cultural mission of Sweden, which was then a rising power,[5] and presumably intended that they should

[1] There is no satisfactory equivalent for the Swedish term *allmoge* outside the Scandinavian countries. Originally it referred to the whole body of free men which constituted the people, being applied specifically to country folk and manual workers only after the relatively late differentiation of society into trade groups and classes. Scandinavian folklorists emphasize the distinction between their conception of *allmoge* and that of the *Unterschicht*, or lower stratum, which is the object of study in other European cultures, and to which several German authors ascribe an associative manner of thinking and a purely passive role in culture; cf. (31), pp. 90–1.

[2] (74), p. 30.

[3] Swedish *sinnelagh* (literally 'type of mind').

[4] (12), ii, p. 1.

[5] (31), p. 6.

be carried out by numerous officials. The only one appointed, however, was the State Antiquary, whose office survives to this day. At all events interest in the subject seems to have been well maintained, for in 1666 clergymen were informed of the desirability of making notes on local folk-lore, and questionnaires were issued during almost every twenty-five-year period in the seventeenth and eighteenth centuries.[1]

But Linnaeus (1707–1778) is regarded as the first, at least in Sweden, to see that folk traditions merited serious scientific study,[2] and the accounts of his observations on his own journeys in various provinces are regarded as classics. With the beginning of the nineteenth century and the romantic movement, collectors of songs and other types of folk-lore rapidly multiplied. The most distinguished of them was Hyltén-Cavallius (1818–1889), whose principal work (42) included both oral traditions and material culture in the description of peasant life. While benefiting by the Grimms' example and methods, he avoided the mythological speculations in which W. Grimm and his followers became involved (see Section IV). A provincial collection made by Hyltén-Cavallius inspired Hazelius (1833–1901) to establish, in Stockholm, the outdoor museum of Skansen, and the Northern Museum,[3] probably still the foremost folk museum in the world. It is noteworthy that Hazelius insisted on the importance of recording full information about the objects collected, as well as other embodiments of folk-lore, a policy which has resulted in the museum's rich archive of folkloristic material.

As in other countries, the development of folk-lore research in Sweden suffered from the greater popularity of archæology and philology, both in the universities and in the local societies which included the study of living traditions in their programme.[4] Nevertheless there are now about 400 Swedish museums with collections illustrating local culture, and institutes and archives of folk-lore exist in Uppsala, Lund, Stockholm, and Gothenburg, partly or wholly subsidized by the State. In 1937 the Dialect Archive [5]

[1] (29), p. 175.
[2] (74), p. 31.
[3] *Nordiska Museet.*
[4] (74), pp. 35–8.
[5] *Landsmålsarkivet, Kungl. Universitets Bibliotek.*

in Uppsala was sending out 33 students on field-trips and receiving reports on local dialects and folk-lore from 115 persons resident in various parts of the country, and had distributed 133 questionnaires (22). While this archive, which has already amassed a very large amount of manuscript material, is concerned with the study of dialects as well as of oral traditions, research at the Northern Museum is entirely devoted to folk-lore. In connection with the 'Ethnological Investigation' which has been proceeding there since 1917 it has issued 119 questionnaires, sent out many specialists and students on field-trips, and received records from between 400 and 500 local residents (11).[1]

The arrangements recently made by the Royal Gustavus Adolphus Academy for Ethnological and Folk-lore Research to ensure the gradual publication of the large Swedish folk-tale collections have been described, in English, by S. Liljeblad (54).

B. IN ENGLAND

In England the Folk-Lore Society, founded in 1878, has through its meetings and publications, and a distinguished membership, exerted a considerable influence at home and abroad. In the latter half of the nineteenth century the work of Tylor, Lang, and Frazer profoundly affected folkloristic theory in Europe generally, and M. R. Cox's "Cinderella" (26) was an outstanding contribution to folk-lore research. It was under the impetus of a system of analysis put forward by the Society that three International Folk-lore Congresses were held, from 1889 to 1893.

In 1892 E. W. Brabrook read a paper to the British Association for the Advancement of Science on "The organization of local anthropological research", and a committee was appointed to give effect to his suggestions. The scope of the proposed 'Ethnographical Survey' included customs, traditions, beliefs, ancient remains, and the physical type of the inhabitants. However, the committee, after producing interesting reports between 1893 and 1897, dissolved

[1] The differentiation within the sphere of folk-lore research which has favoured progress towards more scientific methods in Sweden and neighbouring countries is illustrated by the existence of a lectureship in *Folkminnesforskning* at the University of Lund (since 1910), and of a professorship in *Nordisk och Jämförande Folklivsforskning*, or Nordic and Comparative Study of Folk Life, at the Northern Museum (since 1919).

itself in 1899,[1] and no large scheme of inquiry in the field of folk-lore appears to have been undertaken since. Local societies also concerned with history or archæology have collected some folkloristic data, but the Eastern Counties Folklore Society, founded in Cambridge in 1934, is perhaps the first to have as its primary purpose the collection and analysis of local traditional material.

The fact that folkloristic research in England has not, on the whole, kept pace with that in certain other countries during the last generation is no doubt largely due to the rival claims of ethnographic studies in primitive cultures, to which the responsibilities and opportunities of empire were bound to attract especial attention.[2] Probably the most important achievement has lain in the recording of folk-dance and -song, carried out chiefly by Cecil Sharp (1859–1924).

Bishop Percy (1729–1811) published the first comprehensive collection of English popular ballads (62), derived from copies which he chanced to find. As he considered them too rough for the polite taste of the time, he made some changes in the text.[3] The ballads aroused widespread interest in Europe, and many other collections followed, although the tunes which accompanied the ballads were long ignored.[4] Sharp established new standards, and became probably the most systematic and energetic of all the English collectors. He recorded nearly 5,000 songs, of which just over 1,600 were published. The original words and tunes, in his autograph, are in the library of Clare College, Cambridge, but he has been

[1] Cf. Richards (69). An account of this and other attempts at organized research is given by Myres (58), p. 37 ff.

[2] Fleure (34) has, however, recently referred to imperial responsibilities as making it important " that we should appreciate the traditionalist element in our social life," i.e. study English folk-lore (p.52). On the other hand, the appeal to patriotism which has more than once given rise to research abroad is evident in another contribution to the same discussion, when Richards (69) deplores that " a generation has grown up ignorant and careless of the sources from which our national culture has derived so much inspiration and vitality " (p. 48). It may be noted that the popularity of folk-lore studies in, e.g., Finland, Norway, and Eire has been at least partly due to a widespread desire to recapture, through tradition, the culture of a period preceding foreign domination, to emphasize its best traits, and sometimes to revive it.

[3] Cf. Strangways and Karpeles (73), p. 56, and Jameson (44), pp. 863–6.

[4] (73), pp. 56–7.

criticized for bowdlerizing the printed versions.[1] The alterations he made resulted from the fact that the objective of accurate preservation for posterity, and the ideal of an extensive folk-song and -dance revival in his own time, were closely linked throughout his activities. Yet he did not wish to 'improve' the text; he confined himself to modifying "obscure, or completely unintelligible" passages, and those where the sentiment was "outspoken, or actually obscene", Sharp considering such sentiment to be indicative of an "individual, not communal, origin" of the particular song.[2]

Especially valuable are the tunes recorded (1916–18) among the largely illiterate settlers of the Southern Appalachian Mountains, who had emigrated from England, the lowlands of Scotland, and northern Ireland, to America during the eighteenth century. Characteristically he called these people "a case of arrested degeneration"; they knew little music except the traditional folk type, and folk-songs were a part of everyday life. Thus a woman who had momentarily forgotten a song which Sharp wished to hear, said, "If only I were driving the cows home I should remember it at once."[3]

In recording folk-dances in England, Sharp encountered the difficulty that he could seldom see a complete team. Usually the dance had to be reconstructed from the memory of a single individual, preferably one who had been the 'foreman', i.e., No. 1 in the dance, Sharp taking the role of No. 2. The absence of a scientific and generally accepted system of dance-notation had also to be remedied. The system which, with the help of MacIlwaine, Sharp finally evolved was based partly on that of Arbeau's *Orchésographie* (1588).[4] Sharp noted over 200 dances in all, of which he published 150.[5]

The Folk Song Society, founded in 1898, which Sharp's enthusiasm had stimulated to increased activity after 1903, and the English Folk Dance Society, founded on Sharp's initiative in 1911, amalgamated to form the English Folk Dance and Song Society

[1] (73), p. 105.
[2] (73), p. 51.
[3] (73), pp. 149, 154.
[4] T. Arbeau was the pseudonym of J. Tabourot; see (75). An English translation by C. W. Beaumont appeared in 1925 (*Orchesography*. London: Beaumont. pp. 174).
[5] (73), pp. 103–5.

in 1932; it occupies Cecil Sharp House, opened two years earlier. The Society's work of collection in England is regarded as nearly finished, the maintenance and spread of folk-dance and -song being now its chief task. However, Sharp's manuscript material, and his account of collecting methods and experiences, deserve further attention from students of folk-lore.

C. IN EIRE, SCOTLAND, AND WALES

As the Irish folklorist S. Ó Duilearga points out, there is in Eire "an immense body of oral literature and folk-lore, in extent and variety incomparable in western Europe". Storytellers, "with repertoires of 200 or 300 tales, still hold their audiences entranced as did the pilgrims to Canterbury. . . ." (60).

From 1825 there has been desultory collecting. As part of the Gaelic language revival, led by Douglas Hyde, towards the end of the nineteenth century, songs, stories, proverbs, riddles, etc., were taken down. Then, after the years of political tumult, the Folklore of Ireland Society was founded in 1926, and in its journal, *Béaloideas*, material is published as recorded, verbatim, in Irish or English.

Further progress was rapid. In 1930 the Irish Folklore Institute was established by the Irish Government, and a grant from the Rockefeller Foundation made possible a fine manuscript collection of folk-tales, folk-songs, and other material. In 1935, largely as a result of representations made to President de Valera by C. W. von Sydow, of the University of Lund, the Irish Government replaced the Institute by the Irish Folklore Commission, on a basis which permits nine full-time collectors, equipped with recording apparatus, to work in the field. Part-time collectors, resident in various parts of the country, numbered 150 in 1937. A substantial amount of material in the form of bound manuscript note-books and dictaphone records has already accumulated.

At the invitation of the Commission, Å. Campbell of the University of Uppsala and A. Nilsson of Lund have carried out an investigation into Irish house-types, 'field-cultures', and agricultural implements. The Commission's archivist received his training at the Dialect Archive in Uppsala (60), and indeed the relations between modern Irish folk-lore research and Swedish methods have throughout been very close.

The Commission is at present concentrating its efforts on oral

traditions in the Irish tongue, but in the English-speaking districts there still remains much fruitful collecting work to be done.

In Scotland, interest has also recently been stimulated by folkloristic developments in Scandinavia, and in 1937 the Scottish Anthropological Society acted as host to the first general meeting of the International Association for European Ethnology and Folklore, which was founded in 1935. The Scottish Society's *Proceedings* include some folk-lore, and the Society is fostering plans for the publication of manuscript material and the establishment of a folk museum (37).

The National Museum of Wales opened a department of Folk-Culture and Industries in 1936. The detailed surveys contemplated relate to material culture (37).[1]

D. IN OTHER AREAS

Reports on the facilities for folk-lore research provided by archives, museums, and universities in Denmark, Norway, Germany, Esthonia, and Greece, and on their national collections of folk-lore, have appeared in the journal *Folk*.[2] Contemporary folkloristic studies in these and other European countries can now be conveniently followed in *Folk-liv*,[3] which in 1938 became the organ of the International Association for European Ethnology and Folklore, and of the Committee of the *Congrès International de Folklore*.[4]

III. THE DIFFERENTIATION OF METHOD AND MATERIAL

From the foregoing review of the scope and present state of European folk-lore research it is evident that no stable progress can be made until both methods and types of material are further

[1] In a paper read to Section H of the British Association for the Advancement of Science, Blackpool Meeting, 1936, H. J. Fleure said that the leadership in studying our own traditions belonged to the National Museum of Wales.

[2] Reports in *Folk* on research in Sweden and the British Isles have already been quoted. *Folk* (published by Hirzel, Leipzig) was the first journal sponsored by the International Association for (European) Folklore and Ethnology. Only two numbers appeared, however: 1937, i, 1 and 2.

[3] Published by the Royal Gustavus Academy for Ethnological and Folklore Research, Uppsala.

[4] This congress held its first meeting in Paris, 1937 (25).

analysed and related to those of other disciplines. Due perhaps partly to the fact that the products of European and of primitive cultures often lie in the same museums, technologists have, it is true, been led to make fruitful comparisons; but when we turn to the social sphere, on which attention centres in this book, the situation is more complex and less satisfactory.

Research into social and political institutions, the cycle of life, occupations, and industries in European peasant communities should clearly be linked as closely as possible with the anthropological investigation of corresponding phenomena among primitive communities, on the one hand, and with the comparative study of complex societies undertaken by sociologists and economists, on the other. S. Erixon has indeed advocated the combination of these points of view (31), and is engaged in illustrating his thesis by the description of a Swedish rural community in accordance with a very comprehensive scheme (32).

Social anthropological method and theory must also be referred to when we consider that part of the folklorist's field which is concerned with custom, ritual, magic, superstition, and religion, although it is not the only branch of study which is relevant. Then there are the special fields of the folk-song and -dance (see Section II, B), and of folk-drama. They cannot be treated here, but Krappe (49) gives a useful account of them, as of other types of oral tradition. E. Westermarck discusses the analysis of proverbs in the "Introductory essay" of his *Wit and Wisdom in Morocco* (84), and A. Aarne has made a comparative study of riddles (3).

It is in the study of folk-tales and myths, however, that folklorists have made their chief and specific contribution, and the following section will be devoted to a summary of some of their methods and theories.

IV. THE STUDY OF FOLK-TALES AND MYTHS [1]

During the seventeenth and eighteenth centuries, folk-tales [2] became increasingly fashionable in literary circles. The incidents

[1] Both the introductory part of this section, and Section IV, A, owe much to Thompson (78). See also Krappe (49), chap. 1, and Jameson (45), pp. 18–41.

[2] Of the various kinds of tale, the attention of folklorists has been focused principally on those usually referred to, by the German term, as *märchen*.

in the Italian tales published (1634–6) by Basile, who was probably the most important of the early collectors, are thought to correspond essentially with those in the oral versions of the time, but he clearly made great changes in style. Perrault's *Contes de Ma Mère Loye* (1679)[1] seem much closer in style to oral tradition. With the *Kinder- und Hausmärchen* (1812) of the Grimm brothers,[2] Romanticists, literary motives gave place to the ideal of preserving authentic tradition. There is evidence that they, too, worked the tales over, and some of their stories are in fact described as taken from literary sources ; yet it was their achievement which primarily inspired the extensive recording of folk-tales, especially in Denmark, Norway, Germany, Scotland, France, Sicily, Greece, and Russia, in the succeeding decades.

Through these collections attention was called to the international nature of many components of the folk-tales, and W. Grimm suggested that they descended from an ancient Indo-European prototype. He also regarded them as the broken-down forms of forgotten myth, a concept further developed by M. Müller and others, who tended to see in every hero, heroine, or villain in a tale a sun-god or moon-goddess, a representation of lightning or storm or dawn.[3]

Tylor opposed such views by pointing to the similarity in reasoning between European folk traditions and primitive beliefs, which were being revealed by anthropological research, and he

Bolte and Polívka (18) give a list of equivalents in various European languages (p. 1 ff.), " tale, nursery tale, droll story, legend," being the English ones. Thompson points out ((80), p. 104) that Aarne's index of *märchen* types (4) includes " much that no one would call *märchen*, for example, fables, fabliaux, saints' legends, animal trickster tales, and even a few origin myths (*natursagen*) ". Krappe (49) discusses separately fairy-tales, merry tales, animal tales, local legends, migratory legends, and prose sagas.

[1] The rise in popularity of folk-tales coincided with the controversy between the " Ancients " and the " Moderns ". Perrault took part as one of the " Moderns ", who held that literary worth was not confined to the classics of Greece and Rome ; see Jameson (44), pp. 748–753.

[2] In their interest in German folk traditions the Grimms were preceded by J. G. Herder (1744–1803), who had in turn been influenced by the Englishman Percy, collector of ballads (see Section II, B, above, and (74), pp. 22–23). For the literary setting of the Grimms' enterprise see Jameson (43), pp. 363–4.

[3] H. Gaidoz having ' proved ' by their method that M. Müller had never existed (1884–5), it was largely abandoned by folklorists (78).

postulated the 'polygenesis' of tales as survivals from earlier stages of culture.[1] However, Lang, who also adopted this position, conceded the possibility of diffusion in the case of such a widespread tale as Cinderella.[2]

The marked progress of folk-tale research during the last forty years Stith Thompson considers to be chiefly due to close co-operation between folklorists, especially those of Germany, Scandinavia, and Finland. Important steps have been the exhaustive annotation of the Grimm tales by Bolte and Polívka (18), forming the basis of comparative work; the establishment and proper care of national archives of folk-lore; the preparation of encyclopædias and bibliographies, especially the *Handwörterbuch des Deutschen Märchens* (40) and the *Handwörterbuch des Deutschen Aberglaubens* (39); and the work of the Folk-lore Fellows (see Section IV, A).

Although theories assigning folk-tales to a single place or a simple cause have now largely been abandoned, there are a number of different contemporary schools of thought with regard to the most appropriate methods for analysis and interpretation. The historical-geographical technique, which arose in Finland, and the method followed by F. Boas and other American anthropologists, have both involved the collection and classification of many kinds of tales, over wide areas. In this way, apart from the value which particular interpretations formulated by the schools in question may possess, they have clearly contributed very substantially towards the

[1] Hartland writes, in 1891 (41), that the incidents of which fairy-tales "are composed are based upon ideas not peculiar to any one people, ideas familiar to savages everywhere, and only slowly modified and transformed as savagery gives way to barbarism, and barbarism to modern civilization and scientific knowledge of the material phenomena of the universe" (pp. 24–5); but he admits that in certain cases there is diffusion from one centre. Gomme, writing in 1908 (38), is also much preoccupied with "survivals" in folk-lore, classifying them into "tribal and non-tribal items" (see, e.g., p. 317).

[2] In his "Introduction" to Cox's "Cinderella" (26), which contains abstracts of 345 variants of that tale, Lang writes that "tales are of immense antiquity, and date from a period of wild fancy, like that in which the more backward races are still or were yesterday", but states that he has "frequently shown the many ways in which a tale, once conceived, might be diffused or transmitted" (p. xiv). He supposes "that story-tellers have always been making combinations, that the best and most dramatic survived in most vigour, that a good type, like *Cinderella*, once hit upon, was diffused widely" (p. xxiii).

foundations of any future study of folk-tale material. Suggestions relating to collection, as well as interpretation, have been advanced by B. Malinowski, as one aspect of the 'functional' approach to the study of culture. Psycho-analysts have concentrated their attention on the interpretative side. Finally, among other psychological interpretations, some, notably those of F. C. Bartlett, have been based upon, or illustrated by, psychological observations and experiments.

A. THE HISTORICAL-GEOGRAPHICAL METHOD

The first great Finnish collector of traditions was Lönnrot, who sought to reconstruct a national folk epos from a large number of separate ballads, publishing the result, *Kalevala*, in 1835. Fortunately the texts of the ballads were also preserved as he had recorded them, and his collection was added to by others; these ballads provided the material for a critical comparative study by his disciple, J. Krohn.[1] With the object of tracing the course followed by each individual ballad, Krohn worked out a technique for the geographical and historical arrangement of the many variants at hand. His son, K. Krohn, applied the method to animal tales and elaborated it further, later describing its history and procedure in "Die Folkloristische Arbeitsmethode" (50).[2] K. Krohn's conviction that, in order to study a tale, one should have as complete a collection of variants as possible, make a thorough analysis of all the versions collected, and allow theorizing about the general principles of folk-tale origin and history to await a long series of highly technical studies, resulted in hissuggesting the formation of an international association, known variously as the Folk-lore Fellows, *Fédération des Folklöristes*, or *Folkloristisches Forscherbund*, according to the country concerned (78).

The members of this informal organization are all trained scholars. There are no officers, but Krohn has in fact directed its activities, gaining the financial support of the Finnish Academy of Sciences for their important series of publications, the *FF Communications*,[3]

[1] Cf. (74), pp. 28–9.

[2] Taylor (77) has described tendencies elsewhere which appear to have been leading towards a method of analysis similar to that of the Finnish school.

[3] 1910 ff.

and, with the help of Aarne, piloting their co-operative work through the difficult years of the Great War. The programme sponsored and since followed by the Folk-lore Fellows, and other groups with similar aims, includes the varied types of enterprise described below (Sections 1–5) :

1. *The Further Collection of Tales*

In spite of continuous collecting, this kind of work is to-day still far from completed. There are conspicuous gaps, particularly in England, France, Italy, south-eastern Europe, Asia Minor, Iran, Tibet, and China.[1]

2. *The Classification of Tales*

If only for the purpose of listing the tales in print and in manuscript, classification was indispensable. In 1910, Aarne published his index of 'types' of the folk-tale (4), based on the Finnish archives arranged in a logical order. Aarne gave numbers to 550 types. All the important collections of European tales, including the Russian, have since been classified by Aarne's system,[2] or the revision of it published by Thompson in 1928 (5), which included cataloguers' suggestions and analysed the types into motifs, but retained the original numbering. Material is now being collected for a further, and more fundamental, revision (80).

Outside of Europe, Aarne's tale-types are not everywhere found, but similar 'motifs' recur throughout the world.[3] Thompson's compendious "Motif-index" (79) will therefore greatly facilitate comparative research, and his system has already been used in the

[1] China presents a particularly rich field, of vital importance for the confirmation or development of any comprehensive theory; cf., e.g., Jameson (45). An index of types, by Eberhard, has recently appeared (28), and the China Folk-Lore Society (Chengtu, Szechwan) and Lingnan University (Canton) are actively collecting and publishing; yet these efforts can touch only the fringes of an immense task.

[2] In spite of a certain heterogeneity, Aarne's list has served the needs of cataloguing remarkably well, and is much superior to that of J. Jacobs, which is relatively fragmentary and uncritical (see (80), pp. 103–4). Jacobs's list was put forward by the (English) Folk-Lore Society in 1892, and was a notable effort for that period. It is the only one reproduced in the last edition of the Society's "Handbook of folk-lore" (21).

[3] The situation is well illustrated by Thompson's comparative notes on the types and motifs in American Indian material (81).

analysis of German, Spanish, Irish, and American Indian material, as well as of Arthurian romances and Norse sagas (79, 80).

Since non-folklorists are often sceptical regarding the significance of alleged resemblances between different versions of what is called the 'same' tale, it may be useful to examine the concepts of tale-type and motif in more detail at this point.

Thompson defines a type as "a traditional tale that has an independent existence", i.e. it "does not depend for its meaning on any other tale". It may consist of one motif only, as in the case of most animal tales, jokes, and anecdotes; or of many, as in the case of *märchen* like Cinderella.

A motif is "the smallest element in a tale having a power to persist in tradition"; in order to do so "it must have something unusual and striking about it". The three main classes of motifs are constituted by (i) the actors of a tale, (ii) certain items in the background of the action, such as magic objects or strange beliefs, and (iii) single incidents, the class to which the majority of motifs belong.[1]

Krappe lists the motifs of one tale-type, *Nicht Nocht Naething*, as follows:

(1) Child promised to a demon
(2–4) Three tasks imposed upon the captive by the demon
(5) Flight of captive with the demon's daughter
(6–8) Three lifeless objects reply for the fugitives
(9) Pursuit by the demon
(10–12) Three objects thrown out by fugitives to create magic obstacles
(13) The curse of the demon's wife
(14) The kiss causing the hero to forget his bride
(15–17) Three adventures of the forsaken bride with importunate suitors
(18) The undoing of the charm and the recognition

While a number of motifs occur in only a limited number of tale-types, others are ubiquitous; thus in the foregoing illustration (1) belongs to the latter category, whereas most of the others would be classed with the former. Certain motifs are sufficiently alike to exchange places with one another in a given tale; for example, in the type quoted above, motives (10–12) are often replaced by certain others, e.g. (10*a*–12*a*), a threefold metamorphosis of the fugitives. "Yet this does not mean at all, as has at times been asserted, that motives [= motifs] are combined arbitrarily in a kaleidoscopic

[1] (80), p. 105.

fashion. On the contrary, the cases of permutation represent a very small minority, and as a rule the motives are so definitely shaped, with nothing vague about them, and combine in a fashion so rigorously logical that the type must be considered as an artistic creation, an entity," which, according to Krappe, " can have been composed only once, in a definite locality, in a definite time, the product of one individual mind." [1]

Unfortunately we have as yet no clear criterion for judging which combinations are ' logical '; but Aarne's classification of tales by types and Thompson's classification by motifs greatly facilitate the discussion of this and other questions raised by folk-lore research.

3. *The Cataloguing of Tales*

Aarne's catalogue of Finnish tales (1), made in accordance with his own system of classification, has been followed by many others, published in the *FF Communications* and elsewhere. The large accumulations of manuscript material in the various national archives are indeed of restricted use to folklorists until they are catalogued.

4. *The Development of a Technique for Study*

The goal of the Finnish school's technique is the determination, for each tale, of the original form, the place of origin, the date of composition, the routes followed by different versions, and the changes undergone. But while it " is assumed that every well-articulated tale had a definite beginning, in oral or written form ", what " lies behind this beginning . . . is outside the scope of the historical-geographical method of study and must be approached by other techniques ".[2]

The first step in the analysis [3] is to arrange all available versions of a tale geographically and, as far as possible, chronologically. The tale is then divided into its principal episodes, for each of which there will usually be several forms. The number of versions of the tale containing each are counted and percentages compiled, the purpose

[1] (49), pp. 1–2.

[2] (78), pp. 297–8.

[3] The most detailed account hitherto given of the Finnish method is that of K. Krohn (50). Taylor describes it briefly, and illustrates its application, in " The black ox " (76), a historical-geographical study of a tale of comparatively limited distribution. Thompson summarizes and evaluates the method in (78).

being to determine the original content of each episode. But frequency is used merely as one indication, that form of motif being considered the probable original which also shows the widest distribution, is found in the oldest and in the ' best told ' versions, is most ' natural ' and most in accord with other traits clearly original, and which can explain local variations as deviations. When one form surrounds another geographically, it is usually taken to be the original. All these considerations are weighed, however, in coming to a decision.

From the motifs which appear to be original ' the primary tale ' is then reconstructed. If two tale-types, or regional sub-types, seem to be involved, they must be separately reconstructed in a similar manner. The ' theoretical original form ' posited should be a consistent entity, and should also " account for all the variants which have been derived from it " (78).

The original home of a tale is believed to lie within the area of its present distribution in most cases. The story of the bear fishing with his tail through the ice obviously comes from the north, but it is usually necessary to scrutinize each motif in order to determine the direction of the distribution, always considering the age and historical relations of the peoples concerned.

With regard to the age of a type, Thompson admits that, apart from the termini set by written versions, estimates must be highly speculative. Tracing the paths by which a tale has travelled from its original home to the places that now know it is equally difficult. The historical-geographical school has adopted the hypothesis that the most important movement of oral tales is wave-like, spreading gradually on all sides of an original centre, although new sets of waves may start up *en route*.[1]

As early as 1891, K. Krohn attempted to codify the principal types of change which could be distinguished in the history of individual folk-tales (51). Both Aarne (2) and K. Krohn himself (50) have since rewritten the list, and A. Olrik (61) has introduced elaborations, but Taylor (76) considers that Krohn's original formulation is still adequate. He gives the following free translation:

[1] Wesselski (83) believes that the occurrence of written versions and wandering story-tellers disrupts the process to such an extent that the historical-geographical method is thereby rendered invalid; Thompson (78) states, however, that its best scholars take these factors into account.

" All the modifications in the motley structure of märchen have arisen in accord with definite laws of thought and fantasy. Among these far from numerous laws may be mentioned : the forgetting of a detail, the acclimatizing of a strange and the modernizing of an obsolete object [*trait*], the generalizing of a special term and the specializing of a general one, the rearranging of the order of events, the confusing of persons or acts, the multiplying, particularly by the numbers 3, 5, and 7 [*of persons or things*], polyzoism, in which many animals replace a single one, anthropomorphism of animals and its opposite, egomorphism, in which the narrator himself appears as hero, and so on."

Taylor himself adds " contamination, the influence exerted on a tale by analogous tales ".[1]

Summing up the merits of the historical-geographical method, Thompson moderately claims that even " if the greater wisdom of the future shall decide that the material needs an entire re-examination, the assembling of data, the orderly arranging of it, and the minute analysis that has preceded the attempt at conclusions will always make the studies carried out by this method important contributions to scholarship."[2] Indeed the procedure adopted by, e.g., Taylor in " The black ox " (76), where reference is constantly made to the abstracts of *all* known variants, which are given at the end of the monograph, clearly represents a great advance in scientific method over the selective reference to one version, or very few, which is often used to support arguments concerning the nature and origin of folk-tales.

The prevalence of a non-scientific attitude towards folkloristic data is indirectly revealed by Thompson's statement (78): " Some able scholars were at first repelled by what they felt was the mechanical nature of the [Finnish] method. But a consideration of the great latitude left for tact and judgment has somewhat overcome this opposition " (p. 301). Yet it is precisely because of the scope given to " tact and judgment " that the conclusions reached even by the Finnish method can seldom be regarded as fully established.

5. *The Writing of Monographs on Individual Tales*

In 1931 K. Krohn, fifty years after his first work with the historical-geographical method, summarized the results of studies of some 35 individual tale-types, most of them carried out by the Finnish method, or by a similar technique (52). One of his tentative

[1] (76), p. 9.

[2] (78), p. 301.

conclusions is that two main centres of distribution are evident within historic times, i.e. India and western Europe; but he considers that the "*Urheimat*" of tales cannot be determined without further research.[1]

B. THE AMERICAN ANTHROPOLOGICAL APPROACH

Somewhat different both in objective and technique from the Finnish approach, and apparently independent in its development, is the method adopted by Boas and his disciples in studying primitive folk-lore, chiefly that of American Indian tribes.

Boas formulated some of his principles very early in his career, before his main field work was undertaken. In a paper on the "Dissemination of tales among the natives of North America" (1891) he points out that although the "diffusion of tales was just as frequent and just as widespread in America as it has been in the Old World",[2] the fact that with few exceptions only the present folk-lore of each tribe is known to us leaves the folklorist with no choice but to adopt the comparative method.

In spite of his emphasis on diffusion, Boas admits that the ideas underlying certain well-nigh universal features of tales and myths probably suggest themselves easily to the mind of primitive man, and he thinks that the prevalence of, e.g., the story of a man being swallowed by a fish is not likely to be due to dissemination. Boas meets the difficulty of choosing between dissemination and polygenesis in a particular instance by enunciating the rule that "wherever a story which consists of the same combination of several elements is found in two regions, we must conclude that its occurrence in both is due to diffusion. The more complex the story is . . . the more this conclusion will be justified." Nevertheless he insists that the "logical connection" of what he calls the 'elements' must be taken into account, for a single element may consist of a number of incidents which are very closely connected and still form only one idea.

In such cases corroborating evidence is needed, and Boas looks

[1] C. W. von Sydow believes that larger syntheses can be more expeditiously reached than the slowness of the Finnish method permits. His own view is that tales of wonder are of Indo-European origin and descend much like languages, seldom crossing linguistic borders (see Thompson (78)).

[2] (14), p. 13.

for it in geographical distribution. " Whenever we find a tale spread over a continuous area, we must assume that it spread over this territory from a single centre. If, besides this, we should know that it does not occur outside the limits of this territory, our conclusion will be considerably strengthened. This argument will be justified even should our tale be a very simple one." [1] Evidence of communication between the areas concerned is also noted. An additional support for the conclusion drawn may be obtained if other stories are found to be common to the two areas (pp. 15–16).

The criteria mentioned by Boas clearly conform very closely to some of those enunciated by the Finnish School (see Section IV, A, 4). Boas also gives summaries of ' plots ' and analyses tales into incidents, but the analysis never seems to have been carried so far as by the folklorists using the historical-geographical method.[2]

In Part IV [3] of his great work on " Tsimshian mythology " (16),[4] Boas confirms his early interest in oral traditions as evidence of historical relations. A second main objective in his study of folk-lore is, however, revealed in Part II, a " Description of the Tsimshian, based on their mythology." [5] Boas believes it to be " obvious that in the tales of a people those incidents of the everyday life that are of importance to them will appear either incidentally or as the basis of a plot ", and assumes that most of the " references to the mode of life of the people will be an accurate reflection of their habits. The development of the plot of the story, furthermore, will, on the whole, exhibit clearly what is considered right and what wrong ". These data constitute " in a way an autobiography of the tribe ".[6] Boas keeps the information so gleaned separate from that derived from other sources.

Among the most interesting of the general conclusions drawn by

[1] (14), pp. 13–15.

[2] This is perhaps largely because, as Boas states (13), " European folk-lore creates the impression that the whole stories are units, that their cohesion is strong," whereas the " analysis of American material . . . demonstrates that complex stories are new, that there is little cohesion between the component elements " (p. 340). See also below, this section.

[3] " Comparative study of Tsimshian mythology " (pp. 565–881); see especially " Conclusion " (pp. 872–881).

[4] For a brief summary of the conclusions drawn by Boas from his Tsimshian material, see (13).

[5] pp. 393–477.

[6] (16), p. 393.

Boas from his folk-lore research is that the ' make-up ' of stories exhibits much wider divergence among the North American tribes than in Europe, " corresponding to the greater diversification of cultural types " ; he considers that " the integration of European cultural types has progressed much further during the last two or three thousand years than that of the American types ".[1]

Another important conclusion is that no sharp distinction exists between myths and folk-tales, since the same tales which occur as myths appear also in the form of folk-tales. One may, however, speak of ' mythological concepts ', which enter into tales relating to incidents in the lives of mythical beings, but also into folk-tales referring to the exploits and sufferings of contemporaries, often of known individuals.[2]

The numerous texts carefully recorded and translated by Boas, and the use of folk-lore material both for historical and for ethnological purposes demonstrated by him, have stimulated many other workers to follow his example.[3] The methods evolved and the conclusions reached should be studied in detail by folklorists analysing similar material elsewhere. The annotation by Thompson of American Indian material (81), with references to the tale-types and motifs differentiated by those who use the historical-geographical technique, should initiate fruitful comparisons between the methods and conclusions of the two schools.

C. THE FUNCTIONAL APPROACH

A functional approach to the collection and interpretation of folk-lore has been outlined by Malinowski in his account of *Myth in Primitive Psychology* (57).

" Myth fulfils in primitive culture an indispensable function : it expresses, enhances, and codifies belief; it safeguards and enforces morality ; it vouches for the efficiency of ritual and contains practical rules for the guidance of man " (p. 23). In order to demonstrate the validity of this theory, Malinowski briefly describes and exemplifies the three classes of tales which

[1] (13), p. 340.
[2] (15), p. 609. See also Thompson (81), p. xvii.
[3] The relation between the method of collecting and interpreting folk-lore and the general theoretical position adopted by Boas can be seen in Lowie's recent evaluation of his work ; cf. (55), pp. 128–155.

are differentiated by the natives of the Trobriand Islands, of whom he made an intensive anthropological study.[1] These classes correspond roughly to fairy- or folk-tales, legends, and myths.

During the wet weather of November, when there is little to do in the gardens, the festive mood still lingers after the harvest dancing and feasting, and sociability is in the air. " Sooner or later a man will be asked to tell a story, for this is the season of *fairy tales*. If he is a good reciter, he will soon provoke laughter, rejoinders, and interruptions, and his tale will develop into a regular performance " (pp. 24–5). The second class of stories is believed to be true, and is typically told by the older and more experienced members of a party going on a distant visit or expedition, when younger members express wonder and make inquiries regarding their new experiences. These stories range from historical accounts, directly witnessed by the narrator, to ' hearsay tales ' about distant countries and ancient happenings of a time which falls outside the range of present-day culture (pp. 30–4).

Finally, there are the sacred tales or myths. Myth " is a living reality, believed to have once happened in primeval times, and continuing ever since to influence the world and human destinies " (p. 21). It " functions especially where there is a sociological strain, such as in matters of great differences in rank and power, matters of precedence and subordination, and unquestionably where profound historical changes have taken place " (pp. 78–9).

Malinowski contends that " the functional, cultural, and pragmatic aspect of any native tale is manifested as much in its enactment, embodiment, and contextual relations as in the text " (p. 45). He is therefore in effect urging the necessity for full notes on the behaviour which accompanies the telling of a tale, as well as for a thorough knowledge of the social organization, religion, and other features of a tribe's life, before any interpretation of the tale is attempted. Both of these desiderata presuppose fluency in the native language.

The importance of noting the behaviour of the narrator and the reactions of his audience in conjunction with verbatim records of what is said will be readily appreciated by psychologists, who are trained to make such observations in connection with their experiments, but

[1] See Chapter XII, Section II, D, 1.

the significance of such data seems to have been overlooked by most folklorists. It must be remembered, however, that an adequate written record can seldom be obtained unless the narrator is willing to repeat his tale slowly, several times, and the tale must therefore be seen in its social setting on some other occasion.[1] Moreover many of the tales recorded live in the memories of a few individuals only, and have lost their former social function, if they possess any at all.

The exhaustive knowledge of the narrator's culture which Malinowski also considers indispensable would probably be regarded by every folklorist as highly desirable.[2] Members of the Finnish school often refer to aspects of the relevant cultures in framing their conclusions concerning the place of origin of a motif or type, and Boas and his followers have collected tales from several tribes which have been the object of general anthropological study by themselves or others. Yet where the objective of research is chiefly to establish the fact, or trace the route, of dissemination, the large number of versions which it is necessary to collect before any conclusion can safely be drawn will probably often make it impracticable to accompany the collection of every version of every tale by an intensive study of its local setting.

Malinowski's objective is, however, a functional, not an historical, explanation, and it is to be hoped that he will publish his folkloristic material in full, and illustrate its interpretation in detail, so that the possibilities of the type of approach he advocates may be thoroughly explored. He suggests that the " science of myth in living higher cultures . . . might be inspired by the comparative study of primitive

[1] Bartlett, who has often emphasized the importance of the social setting of the folk-story, states that to " consider the story-teller outside of his group is as futile as to discuss the orator without his audience " (see also Section D, 4, below), and quotes from E. W. Smith and A. M. Dale (*The Ila-Speaking Peoples of Northern Rhodesia*. London: Macmillan, 1920, 2 vols.) their description of a story-teller's eloquence ((8), pp. 62–3). Smith and Dale dwell on the fact that when a tale is repeated for recording, all the circumstances " combine to kill the spirit of story-telling " (ii, p. 336).

[2] Hocart has made the same plea: " There are so many possible ways of rationalizing a myth according to the temperament, bias, nationality, and age of the mythologist; but each of these remains a bare possibility with no power to convince any one. The truth . . . is only to be attained by a systematic study of the whole culture to which the myth belongs, together with neighboring cultures " (" The common sense of myth ", *Amer. Anthrop.*, 1916, xviii, 307–318.

lore" (p. 122), but no comparative material is cited in the course of his discussion, nor is any method whereby the results of functional studies of folk-lore in different cultures might be compared there proposed. In the absence of such comparison, any conclusions reached must inevitably be regarded as established for the Trobriand Islanders' culture alone.[1]

D. PSYCHOLOGICAL INTERPRETATIONS AND EXPERIMENTS

1. *Wundt's 'Folk Psychology'*

W. Wundt has advanced hypotheses concerning the essential characteristics, order of development, and function of various types of folk-lore, in his *Elements of Folk Psychology* (85). This outline of a "psychological history of the development of mankind" distinguishes four main stages, described as "primitive man", "the totemic age", "the age of heroes and gods", and "the development to humanity". There are also stages in myth development: "The märchen-myth", "the heroic-saga", and "the deity saga" (p. 414). In fairy-tales of the present day, Wundt, like earlier theorists, finds "survivals", which he derives from "the totemic age".

No method of analysis or experiment is suggested, however, whereby the validity of generalizations over so wide a field could be put to the test; moreover, the material at hand is almost certainly still inadequate for such a purpose at the present day.[2]

2. *Psycho-Analytic Interpretations*

The interpretations of folk-lore material formulated by psycho-analysts cannot be adequately described or criticized without placing

[1] In his recent book on *The Irish Countryman* (7), Arensberg, who adopts the functional approach to culture, devotes a chapter (entitled "The good people") to folk-lore. However, he frankly leaves aside "international tales, like those Grimm recorded first in Germany, traceable from India and Siberia to the remotest Irish coasts" (p. 182), and states that the "problem is not so much just what is believed, but the effect of and the reason for such belief" (p. 183). On this topic he has some interesting comments to make, but the material cited is purely anecdotal, and is not related to other social phenomena in any systematic way.

[2] As this goes to press, Professor M. Ginsberg informs me that Wundt discusses in greater detail many problems connected with folk-lore in his *Völkerpsychologie*, v, "Mythus und Religion", Part II.

them in their full setting of general psycho-analytic theory, as developed by S. Freud and his disciples. This cannot be attempted here,[1] but a few general points may nevertheless be mentioned.

That psycho-analysis has made " very extensive and original contributions . . . to the science of folklore in the past twenty years " was claimed by Ernest Jones in a paper to the Jubilee Congress of the Folk-Lore Society in 1928 (46). Psycho-analysis has, he holds, " produced much evidence to show that all our conscious ideas, feelings, interests, and beliefs originate in the unconscious ; the conscious mind originates nothing, its functions being confined to criticism, selection, and control."

Unconscious impulses are " primitive ", both as being earlier in development, and as representing a lower stage of mental evolution. These " primitive impulses " come to expression in consciousness either by undergoing " a process of transformation and adaptation in accordance with external reality ", or " through the formation of complicated forms of compromise which act in effect as disguises, the impulses themselves remaining in their unaltered form and undergoing none of the transformation characteristic of the first mode ". The second class represents " relics of the primitive mental state, fragments left over in the process of evolution " ; folk-lore calls them " survivals ". To the psychologist, he maintains, their value lies in " the direct light they throw on the primitive mind before it has undergone evolution ".

Ernest Jones then proceeds to point out that neurotic symptoms and the phenomena of dream life are also " survivals ", representing " part of the infantile life that has resisted the process of mental growth ", and to these he considers that many savage beliefs and folk-lore customs are closely related in form and content. " They show the same peculiar mental mechanisms characteristic of unconscious products and, what is perhaps even more important,

[1] For a brief description of certain psycho-analytic concepts, and references, see Chapter III. Note that Flugel (35), who considers that " a large number of the major conclusions of psycho-analysis appear to be very well established ", nevertheless states that the " trouble with psycho-analysis at present is that there is too much of the art about it, and too little of the scientific method that can be applied in experimentally controlled and repeated observations " (p. 287).

they reveal the same underlying content and are derived from the same sources." This thesis is illustrated by reference to the importance of the number '3' both in superstition and in unconscious ideas, to parallels in belief in the "omnipotence of thought", and so forth.

Folk-lore material has also been interpreted in the light of psycho-analytic theory by O. Rank, T. Reik, and F. Ricklin. Their views may be briefly exemplified.

In his analysis of "The myth of the birth of the hero" (66), Rank takes as his starting-point the alleged fact that the "history" of the birth and early life of the heroes of the Babylonians, Egyptians, Hebrews, Hindus, Iranians, Greeks, Romans, Teutons, and others "came to be especially invested with fantastic features, which in different nations even though widely separated by space and entirely independent of each other, present a baffling similarity, or in part a literal correspondence" (p. 1).[1] Rank considers that migration or borrowing will probably be demonstrable in a number of cases; however, "the ultimate problem is not whence and how the material reached a certain people," but "*where did it come from to begin with?*" (p. 3).

Rank then selects "from the mass of these chiefly biographical hero myths those which are the best known, and some which are especially characteristic", which are "given in abbreviated form as far as relevant for this investigation", attention being "called to the most important, constantly recurrent motives by a difference in print" (p. 11). Since Rank also states his sources, this procedure may be considered justified; but the inherent dangers are evident when we read, later, that a "cursory review of these variegated hero myths forcibly brings out a series of uniformly common features, with a typical ground work, from which a standard saga, as it were, may be constructed" (p. 61).

After the "standard saga", thus impressionistically arrived at, has been given, its features are examined from the psycho-analytical point of view. Because a hero is much "exposed to envy, jealousy and calumny" his descent may cause him great distress and embarrassment, and he therefore needs to deny his parents and sever his family relations. Rank quotes the opinion that the imaginative

[1] It is, of course, doubtful whether any of the cultures mentioned can be proved to be "entirely independent of each other".

life of the child should be studied in order to understand mythical imagination, but since he believes that the investigation of juvenile imagination has only begun, he considers that we must turn to the reactions of " psychoneurotics, shown by the teachings of Freud to have remained children, in a sense, although otherwise appearing grown up " (p. 63).

Rank relates to the case in question the psycho-analytic finding that a child who is neglected,or feels himself neglected,seeks relief in the idea of being a step-child, or an adopted child. Moreover, the " entire endeavor to replace the real father by a more distinguished one is merely the expression of the child's longing for the vanished happy time, when his father still appeared to be the strongest and greatest man, and the mother seemed the dearest and most beautiful woman " (p. 67). Therefore, as " we proceed to fit the above features into our scheme, we feel justified in analogizing the ego of the child with the hero of the myth, in view of the unanimous tendency of family romances and hero myths. . . ." Dream mechanisms are also treated as confirming interpretations reached. The author concludes that the " projection mechanism . . . necessitates the uniform characterization of the myth as a paranoid structure " (p. 75).

In another work (65), Rank purports to show that the selection of subject matter in dramatic poetry is largely limited by the range of the ' Œdipus complex ', or incest motive.

Reik, in his *Ritual : Psycho-Analytic Studies* (68), describes myth as " older than religion ; it is one of the oldest wish-compensations of mankind in its eternal struggle with external and internal forces ". He thinks that its origin " can perhaps be traced back into the animistic period ", and that " it is of the highest importance for our understanding of the first psychological conflicts of primitive people " ; indeed, " myth, in its original state, preserves in a far less disguised form the memory of those events which led to the institution of religion than do the other forms of phantasy formation in which the share of unconscious powers and forces of repression can be demonstrated " (p. 18). From an examination of myths concerning the origin of music, Reik infers a connection between its real origin and totemism (p. 291 ff.).

Ricklin introduces his treatment of " Wishfulfillment and symbolism in fairy tales " (70) by confessing that, as he is a " novice "

in the study of folk-lore, he has been constrained to take his examples from only a portion of the known collections of fairy-tales. He had soon arrived, however, at " the pleasing and important conclusion " that " it was not necessary for the investigation of fairy tales, in a psychological sense, to know their historical pedigree first." He cites evidence against the theory that all European fairy-tales sprang from India, and in favour of " a whole mass of fairy tales " being " indigenous " and autochthonous in Iceland; he also cites Stoll's opinion that ' procedures and views of the same sort occur among peoples who are not closely related one with another either geographically or historically or through descent. Only the psychic foundation is everywhere the same.'

But the essence of Ricklin's position is that one " is entitled to examine the separate tales as final in themselves for when, in a given instance, the work of interpretation is successful and the symbols are explained, each tale is dealt with as a complete theme in itself. Some render, apparently unaltered, old myths, which we analyze with success as psychological wholes. Others contain and utilize only fragments of myths as material for a new one that again is complete in itself ". The full significance of these tales was first " grasped and exhausted " by the use of Freud's methods and results. This mode of analysis is successful because " the fairy tales are inventions of the directly utilized, immediately conceived experiences of the primitive human soul and the general human tendency to wish fulfillment, which we find again in modern fiction only somewhat more complicated and garbed in different forms " (pp. 1–2).

After a general discussion of various forms of wish structures, Ricklin points out that the " numberless wish structures " occurring in fairy-tales, as well as in mythology, legends, and magical beliefs, " correspond, in part most naïvely, to human wishes created from our insufficiencies "; e.g., " to the wish to be able to fly correspond cloaks and enchanted birds as means of transport ", " the desire to eat is fulfilled by ' little table set yourself ' ", there are " apples of life and water of life for rejuvenation and the preservation of this otherwise all too short existence " (p. 14).

Ricklin then deals with symbolism, and proceeds to illustrate the part it plays in fairy-tales. In the story of " Oda and the serpent ", the serpent is plausibly interpreted as a phallic symbol; in the story

of " The little hazel branch ", on the other hand, the sexual interpretation given both to a twig and to the nuts upon it, because of associations found in dreams and in mental disease (pp. 39–40), seems not only far-fetched, but inessential to the central meaning, even in a Freudian sense, of the tale.

Ricklin also applies to fairy-tale material Freud's finding that " among the dream symbols that represent the female genitals, another bodily organ, the mouth, is often employed " (p. 51). He sketches the role of " infantilism " in fairy-tales, and concludes with a chapter showing that fairy-tales " have a predilection to deal with various sexual motives, having a tendency to the pathological, although with a normal root " (p. 65).

The assumptions involved in the psycho-analytic interpretation of folk-lore by Rank and Ricklin have been critically analysed by Bartlett (9), from a psychological point of view. First, Ricklin never makes clear what he means by ' wish '. The term may be used as referring to any directed tendency, and, if so, it " indicates a factor entering into absolutely all human reactions that come within the purview of psychology, and certainly not offering itself as material for further analysis ". The term may, however, be applied to " the definite picturing, or realising in some way, of an end of action, the identifying of that end as the one which will be sought, and the judging that, as far as possible, the end shall now be sought ". ' Wish ' in this complex form " ought never to be used for the purpose of psychological analysis as if it were itself a simple factor not calling for explanation " (p. 276).

Ricklin's use of the term seems to approximate to the second of the meanings differentiated above, and to involve " memory pictures " of some kind, which, being the result of experience acquired in the course of mental life, call for explanation by reference to the environment. If, on the other hand, ' wish ' is merely a ' directed tendency ', nobody, according to Bartlett, can plausibly maintain that all such tendencies consist of elements present at the very beginning of waking life, as the theory would appear to assume. " What we really require to know is as to the character of the wish: why this, and not that particular set of images, words and thoughts are present, and why this direction, rather than that, is taken by the outworking of the wish " (p. 277).

The alleged symbolizing of former satisfactions of the ' directed

tendency' may clearly be regarded as an attempt to answer part of this question. But a second source of weakness in Ricklin's interpretation is due to the fact that his lack of interest in the 'historical pedigree' of popular tales precludes any study of the varied complexes within which, at different times, the sign which is a symbol has found a place. Even in the case of a purely individual symbol, Bartlett urges, we cannot learn much as to its actual association and its final significance if we confine our attention to the mental processes involved in its use, a contention which has still greater force in the case of a symbol for which universality is claimed. "To interpret a symbol we must know through what myths, what legends, what succession of customs it has come to its place within the particular story which is attracting our attention." This procedure would only be unnecessary if there were, in fact, "certain original, unanalysable and perfectly universal symbols used in all dreams," and these, "precisely in their original dream form", appeared in the popular story; but neither of these assumptions seems likely to be correct (p. 278).

Moreover, psychologically it is insufficient to state that *x* has had such and such a symbolic reference in the past, or even within the community to which the person employing it belongs; no explanation which turns upon symbolic representation can be accepted as valid unless *x* is interpreted in relation to the mental life and personal history of the person concerned (pp. 279–280).

A final, and important, caveat formulated by Bartlett with regard to doctrines of symbolism is connected with their acknowledged ambiguity. They "can readily be fitted into any context", and "practically any symbol may plausibly enough be held to indicate the *same* general context". Anything "may be found to have some deep-lying religious significance", simply because the religious attitude may easily pervade most forms of human expression; the same applies to the tendencies grouped about sex relations. Just because anything "*may be* a sexual symbol, we should be exceedingly cautious in asserting that any particular thing *is* a sexual symbol" (p. 280).

It is, of course, possible to see in the plain sense of many stories the fulfilment of common human wishes, without seeking deeper or indirect meanings of the kind pursued by psycho-analysts. Thus R. D. Jameson (45) points out that, whether or not Cinderella's slipper

symbolizes the female genitalia, as Ernest Jones has suggested (46), this " day dream which we call fairy story is organised by the central situation presented near the beginning, the emotions growing out of the fact that here is a small girl who was loved fondly by a father that died and is now being mistreated by her stepmother ". She ends by getting prettier clothes and making a better marriage than her sisters ; it is " a good story ", appealing to the imagination of the sub-adolescent girl (pp. 83-5).

Chinese stories about " The fox wife " are similarly interpreted by Jameson as satisfying " the almost universal desire of hard working males to find an efficient and beautiful housekeeper and mate ", though they also demonstrate " that the perfect erotic companion who takes care of your house and possesses beauty, virtue and charm belongs to a different order from you, and is elusive, mysterious and quick to take offence. If men are human, their ideal companions are divine " (p. 102). Again, analysing Chinese parallels to the story of Queen Constance in Chaucer's *Man of Law's Tale*, Jameson sees in this theme the phantasy of the misunderstood wife ; it is " the account of a state of mind . . . engendered by the conditions of family life " (p. 131).

Jameson's use of the concept of wish fulfilment resembles the second of those distinguished by Bartlett in his criticism of Ricklin ; and if the alleged phantasy or attitude were, as it presumably could be, proved to exist in the narrator or listener in specific cases, the task of psychological interpretation would be measurably advanced.

3. *Jung's ' Collective Unconscious '*

Some years after the appearance of psycho-analysis as a school, C. G. Jung broke away from Freud to found a school of his own, and his doctrine became known as ' analytical psychology '.[1]

Jung agrees with Rank and Ricklin in closely associating " dream psychology " and " myth psychology ".[2] But he extends the concept of the unconscious to include a deeper layer, supposedly common to the whole race, i.e., the " collective unconscious ", which contains the " archetypes " that express the primitive ideas, needs and aspirations of humanity. " The unconscious, regarded as the historical background of the psyche, contains in a concentrated form the entire

[1] For a summary of the differences between the views of Freud and Jung, see Flugel (35), chap. 9.

[2] See, e.g., (48), p. 15.

succession of engrams (imprints), which from time immemorial have determined the psychic structure as it now exists. These engrams may be regarded as function-traces which typify, on the average, the most frequently and intensely used functions of the human soul. These function-engrams present themselves in the form of mythological themes and images, appearing often in identical form and always with striking similarity among all races; they can also be easily verified in the unconscious material of modern man." [1]

From this typical statement it is sufficiently clear that Jung takes us, if anything, farther in the direction of sweeping generalizations, detached alike from particular sociological settings of folk-lore material and from the investigation of individual attitudes, than the psycho-analysts whose views have just been described. His approach cannot be illustrated in greater detail here; but Bartlett (10) has recently examined various formulations of the notion of a collective unconscious, including Jung's, and his main conclusions may be quoted: "There is some positive evidence in favour of the hereditary transmission of intelligence, but this evidence does not at present amount to proof. As regards other tendencies, those, for example of timidity, assertiveness, combativeness, social exclusiveness and the kind which are at the basis of specialised social interests, there is so far no positive evidence worth speaking of. . . . As regards psychological material, the case for persistence without overlap is at the moment completely speculative" (pp. 291–2).

4. *Bartlett's 'Tendencies' and Memory Experiments*

In a paper on "Psychology in relation to the popular story", published in 1920 (9), Bartlett contrasts "psychological" theories of the folk-tale as an "individual expression", of which Freudian interpretations are an example, with "sociological theories", such as those put forward by Boas. He also outlines his own view, which is intended to give due weight to both psychological and sociological factors. This has been much elaborated in subsequent publications.[2]

Bartlett's criticisms of the psycho-analytic approach have already been cited (see Section IV, D, 2), but his evaluation of an interesting psychological theory advanced by P. Hermant may be summarized here.

[1] (47), p. 211.

[2] See (8), chap. 3, and (10), Part II, especially chaps. 14 and 15.

Hermant[1] has stressed the fact that folk-stories are characteristically told at night, when the day's work is done, and both narrator and listeners are tired. Fatigue is favourable to the play of fancy, and usually conducive to the slackening of attention, volition, and normal critical control; thus many things which would be thrust impatiently aside during the day-time seem fitting and acceptable, and are incorporated in the folk-tale. Hermant also attributes importance to the fact that, in fatigue, kinæsthetic sensibility is far less acute than normally, as a result of which the most gigantic toil can be happily contemplated, and other changes in perception occur. This result, being pleasing, is readily retained, elaborated, and transmitted; i.e., the persistence of the folk-tale is secured. The elements of the stories which faithfully reflect daily experience, on the other hand, appear to be precisely those which cannot be affected by the reduction of the motor sense.[2]

Bartlett, however, considers that this theory, while probably having some foundation,[3] is inadequate in several respects. Too much is made of the time of day for telling tales, and the participants' fatigue; fatigue is not known to be inevitably accompanied by diminished sensitivity to movement, and the role of kinæsthetic sensations has in any case often been exaggerated; fatigue might also be held to reduce liability to strong emotional response, whereas the theory requires that the emotional elements should function vigorously; and so forth. Even if the theory were true, moreover, only a part of the field of the folk-story would be explained.[4]

With regard to "sociological" theories, Bartlett considers it to have been amply proved that many details and plots are directly derived from social customs and institutions. But in so far as we connect a particular custom with a particular incident in a story "we have clearly made no psychological statement whatever. The psychological interest is as to those factors which so determine the individual attitude to social institutions as to make the latter figure largely in popular tales".[5]

Bartlett introduces his own suggestions for a more comprehensive theory by stating that any attempt to deal with the psychology of

[1] "Concerning the fantastic in popular tales," *Rev. des Trad. Pop.* 1902, 297–317 (quoted from Bartlett (9), p. 267).
[2] (9), pp. 267–9.
[3] (9), p. 284.
[4] (9), pp. 269–270.
[5] (9), pp. 281–4.

the popular tale should attack two sets of problems: "First, what are the impulses, or directed tendencies, prominently at work in the formation, expression, retention, transmission, and transformation of popular stories? Secondly, by what processes do these impulses or tendencies come to use such material as appears in the myth, the legend, and the fairy tale?" [1] Indications of the lines along which answers to these questions may be sought have been summarized by Bartlett as follows [2]:

(*a*) The folk-story is always to be regarded as primarily a social product, developed for and told to auditors, and consequently both as regards its form and its matter making, within its own community, a common emotional appeal.

(*b*) Its remarkable persistence within its own group is in part to be traced to the comradeship response which holds this group together, and in part to the expression in the popular tale of group difference tendencies [3] clustering about the life and institutions of the people concerned.

(*c*) In the popular tale may be found frequent illustration of the expression of each one of the primitive instinctive social relationship tendencies: comradeship,[4] assertiveness, and submissiveness. Of these three, however, the second and third tend to be the most strongly marked.

(*d*) Directly affecting the form, and indirectly affecting the matter, of the popular story are tendencies which are brought to bear upon the narrator of the tale by the group of auditors; prominent among these are the tendencies to provoke astonishment and laughter.[5]

[1] (9), p. 284. [2] (8), pp. 103–104.

[3] As explained by Bartlett ((10), p. 262), "the notion of specific, preferred, persistent, social group tendencies demands evidence (*a*) from a study of the same group at different historical periods; (*b*) from different fields of the same group's culture; and (*c*), if possible, from a comparison of the group under normal conditions with the same group faced by some critical situation". Fourthly, "we must try to find some social situation which offers alternative social solutions"; preferably the alternative solutions should definitely conflict, and if the alternative adopted by the group can be shown, on general principles of social welfare, to be disadvantageous, the evidence for the existence of an important group tendency may be regarded as very clear.

[4] Bartlett's concept of 'primitive comradeship', which he has added to the two other fundamental forms of social relationship, already distinguished by W. McDougall, is explained in (8), chap. 2; the same concept was described earlier by Bartlett (9) as the "tendency to impressionability", and said to refer to the phenomenon called by W. H. R. Rivers "suggestibility" (p. 287).

[5] Bartlett has since included "the pathetic" among the characteristics brought into especial prominence through the influence of the audience; cf. (10), p. 266.

(*e*) Just as the group difference tendencies which are connected with pre-existing institutions directly settle many of the details of the stories, so the specific individual instincts settle their general themes. Particularly when the narratives fall into series it is often possible to show how one of the instinct responses is dominant, and how the rest fall into order about this one. In determining which of such instincts takes the first place, external environment plays a large part; the particular sphere of culture involved may be important; while the individual characteristics of the narrator also exercise a strong influence.

(*f*) Certain tendencies—e.g. curiosity—which rarely appear within the cultural product in an undisguised form, may yet have much to do in shaping and maintaining the product.

(*g*) All of the tendencies and factors which have been discussed co-operate in the production of popular stories. A similar combination of conditions may be observed in other departments of activity within the primitive group.

The chief merit of Bartlett's theory may be said to be that it involves an adequate recognition of the number and interrelations of the factors which must be considered in any psychological analysis of the folk-tale. Moreover, the application of his principles is largely illustrated by reference to the very well-documented American Indian material collected by Boas and members of his school (see Section IV, B), and his conclusions are partly based on the results of a long series of experiments on perceiving and remembering.[1]

Yet Bartlett's approach, like that of Malinowski, Wundt, the psycho-analysts, and Jung, can be considered only as an interesting hypothesis, the validity of which has not yet been demonstrated by detailed reference to a body of published material from a specific culture, or relating to a specific tale. Bartlett's examples are drawn from accounts of folk-lore and other aspects of culture in Africa, Scotland, Fiji, the Solomon Islands, and several American Indian tribes,[2] as well as from observations apparently made by the author himself during a study of the Swazis, the results of which have not been published anywhere in full. Indeed, from his critical comments on the generalizations of the psycho-analysts (see Section IV, D, 2), and many of his own formulations of the desiderata of folk-lore research, it is clear that Bartlett himself considers intensive study and explicit analysis indispensable.

[1] These are already referred to in (9), p. 289, although first reported at some length in (10), where it is stated that some of them were begun during the Great War (p. 47).

[2] See, e.g., (8), chap. 3.

On the other hand, the experiments described by Bartlett in *Remembering* (10) go farther towards establishing a scientific basis for estimates of change in folk-lore material than anything yet attempted by folklorists. From the psychological point of view, the experiments also represent an advance in that an attempt has been made to reproduce the conditions prevalent in ' real life ' to a greater extent than has been customary in this field.[1] The results of greatest interest to the folklorist were obtained by the methods of " repeated reproduction " and " serial reproduction ".

The material used with the method of repeated reproduction [2] was a translation, by Boas, of a North American folk-tale called " The war of the ghosts ". This was selected, first, because the story belonged to a level of culture and a social environment very different from those of the subject, and the evidence might therefore illuminate the problem of what happens when a popular story travels from one social group to another ; secondly, because the incidents had no very manifest interconnection, hence its treatment by educated and rather sophisticated subjects would deserve particular attention ; thirdly, because the dramatic character of some of the events seemed likely to arouse visual imagery in certain subjects ; and, fourthly, because the conclusion of the story might easily be regarded as introducing a supernatural element.

Each subject read the story through to himself twice, at his normal reading rate, and except in one case was asked to reproduce it after fifteen minutes and again after various intervals of time. No subject knew the aim of the experiment. The author's summary of the main conclusions drawn (pp. 93–4) is given, in a slightly abbreviated form, below :

(*a*) Accuracy of reproduction, in a literal sense, is the rare exception and not the rule.

(*b*) In a chain of reproductions obtained from a single individual, the general form, or outline, is remarkably persistent, once the first version has been given.

(*c*) Style, rhythm, precise mode of construction, while they are apt to be immediately reacted to, are very rarely faithfully reproduced.

(*d*) With frequent reproduction, the form and items of remembered detail very quickly become stereotyped, and thereafter suffer little change.

(*e*) With infrequent reproduction, omission of detail, simplification of

[1] (10), pp. 11–12.

[2] (10), chap. 5.

events and structure, and transformation of items into more familiar detail, may go on almost indefinitely, or so long as unaided recall is possible.

(*f*) In long-distance remembering, elaboration becomes rather more common in some cases; and there may be increasing importation, or invention, aided by the use of visual images.

(*g*) Long-distance remembering is of two types at least:

(i) The general setting, as expressed mainly through the subject's attitude to the material, continues to function, as also does outstanding detail. The actual memory process is strongly and evidently constructive, and there is much use of inference.

(ii) All that appears to function are one or two isolated but striking details.

(*h*) Detail is outstanding when it fits in with a subject's pre-formed interests and tendencies. It is then remembered, though often transformed, and it tends to take a progressively earlier place in successive reproductions.

(*i*) There is some indication that the influence of affective attitude may, in some cases, be intensified with lapse of time.

(*j*) In all successive remembering, rationalization, the reduction of material to a form that can be readily and 'satisfyingly' dealt with, is very prominent.

(*k*) It is this process, itself often based upon an affective attitude, which gives the whole dealt with that specific ground, frame, or setting, without which it will not be persistently remembered.

(*l*) Or, again, rationalization may deal with details, explicitly linking them together and so rendering them apparently coherent, or linking given detail with other detail not actually present in the original setting.

(*m*) In the latter case rationalization has three main forms:

(i) The given material is initially connected with something else—usually with some definitely formulated explanation—and treated as a symbol of that other material. Eventually it tends to be unwittingly replaced by that which it has symbolized.

(ii) The whole rationalizing process is unwitting and involves no symbolization. It then tends to possess characteristics peculiar to the work of the individual who effects it, and due directly to his particular temperament and character.

(iii) Names, phrases, and events are immediately changed so that they appear in forms current within the social group to which the subject belongs.

(*n*) There is evidence of delay in manifest change, transformations being foreshadowed weeks, or perhaps months, before they actually appear.

The method of serial reproduction is the same as that of repeated reproduction, except that *A*'s reproduction is itself reproduced by *B*, whose version is subsequently dealt with by *C*, and so on; the object is to study the effects of the combinations of changes brought about by many different individuals. Bartlett concludes from the data obtained with the use of (i) folk-stories, and (ii)

descriptive and argumentative passages,[1] that, except in the case of cumulative stories, the final result of comparatively few reproductions "would hardly ever be connected with the original by any person who had no access to some intermediate versions". He believes, moreover, that "with the ordinary free handling of material which is characteristic of daily life, much more elaboration commonly takes place" (p. 171). The main changes noted may be briefly summarized as follows [2]:

(*a*) Proper names, and titles or head-lines, are the most unstable elements of all.

(*b*) Nearly all the series showed a bias towards the concrete, every general opinion, every argument, every piece of reasoning and every deduction being quickly dropped. The originally concrete character of much of the folk-tale material is largely preserved and even emphasized, except that there is a tendency for such material to acquire a moral.

(*c*) All the stories tend to be shorn of their individualizing features, the descriptive passages losing most of any peculiarities of style and matter they may possess, and the arguments tending to be reduced to a bald expression of conventional opinion. Individual opinions may even be changed into opposed conventional views, and original epithets replaced by current, commonplace terms.

Yet there is some suggestion that the material may gain a 'group stamp or character, since the versions produced by (British) Indian subjects tended to show greater elaboration and inventiveness than the others.

(*d*) There was throughout much abbreviation, except for the elaboration in the Indian series. Bartlett believes, however, that experimental conditions greatly favour abbreviation, the social stimulus of an audience, which normally leads to exaggeration and elaboration, being absent.

(*e*) Rationalization, in the case of the folk-tales, takes the form of the introduction of connecting and explanatory words; but in the case of the descriptive and argumentative passages, it takes the form of abbreviation into a few disconnected sentences. Bartlett explains this difference as due to the unfamiliarity of the general setting in the first case, and the familiarity in the second.

Besides describing the main results obtained with both methods, Bartlett gives verbatim a few of the series of reproductions obtained. While he has "in mind throughout a mass of corroborative detail" (p. 64), the remainder of his material does not appear to have been summarized in any systematic way. It is also not clear precisely what units, and what detailed methods, have been used in the analysis of the material presented. Even if further analysis and experiment were to result in modifications of the conclusions reached,

[1] (10), chap. 7.

[2] Cf. pp. 172–6.

however, many of them seem likely to be confirmed in all essentials. In view of the complex nature of the factors revealed, and the alternative directions in which changes may proceed, it is at least obvious that any brief and simple list such as that formulated by K. Krohn, and employed by the Finnish school of folklorists for checking historical inferences (see Section IV, A), can almost certainly not be relied upon as an index of the alterations effected as folk-tales pass from group to group.

5. *The Folk-Tale in Child Psychology*

In " Das Märchen und die Phantasie des Kindes " (20), C. Bühler developed a suggestion, originally made by K. Bühler, that an analysis of fairy-tales would contribute to an understanding of the structure of children's phantasy (p. iii). In a supplement to the third edition, C. Bühler summarizes subsequent observations, as well as experiments, which she regards as confirming the hypothesis advanced.

R. Nolte has questioned some of her conclusions, however, on the basis of his experimental investigation of spontaneous fairy-tale composition by children.[1]

Since it is not generally believed, and indeed the authors of these works do not appear to claim, that children have played a very important part in the formation of folk-tales, this interesting branch of psychological research cannot receive more than this brief mention here.

E. SUGGESTIONS FOR FURTHER RESEARCH

That the " common stock of folktales remains, on the whole, unchanged as it passes from people to people " is clearly indicated by a comparative survey, ranging from Lapland to Spain, of the folk-tales of ten European peoples.[2] Yet Thompson concludes his review of the development of folk-tale research (78) with the cautious statement : " One explanation after another for the likeness in folk-tales has been offered, and none found really satisfactory " (p. 303).

To the present writer three main conclusions seem to emerge, even from the brief examination of theories and methods which has been undertaken in this chapter.

The first is that the objectives hitherto pursued by investigators have all been either so comprehensive or so vague that the results of

[1] (59), p. 22 ff.

[2] Boggs (17), p. 13

the most careful investigations, when these have been undertaken, cannot be made to bear directly upon them. My contention is best illustrated by recalling that Bartlett, who, alone of the authors mentioned, has submitted at least a few folkloristic assumptions to experimental verification, asserts that there are two sets of problems which " any attempt to deal with the psychology of the popular tale should attack ", one being the determination of what tendencies are " prominently at work in the formation, expression, retention, transmission, and transformation of popular stories ? " (see Section IV, D, 4, above). A glance at the varied factors which Bartlett himself, and other investigators cited in this chapter, have considered relevant to such a group of problems reveals the vastness of the task before any research worker, or team of research workers, who might seek to solve them by means of concrete study. I believe that we must recognize that the study of folk-tales cannot be fruitfully conceived as a unity, at all events at this stage, but is best regarded as a general field in which many types of problems present themselves, for which diverse methods are appropriate.

The second conclusion is that, provisionally accepting as equally valid the historical, anthropological, or psychological objectives which different schools or individual investigators have set themselves, it is still apparent that none of the methods evolved by these schools or investigators are entirely satisfactory, even for the purposes for which they have been devised. This is, indeed, admitted by the more careful scholars working in each branch of folk-lore study.

The third conclusion is that one of the most obvious ways in which attempts at improvement can be made is by a thorough study, on the part of leading investigators in each group, of the material accumulated and the methods developed by *all* the other main groups of folkloristic workers.[1] The few specific suggestions for research which are given below involve such cross-fertilization.

[1] There has been little contact between the methods of the Finnish historical-geographical and of the American anthropological schools until the last decade ; Thompson's notes on American Indian material (81), published in 1929, augur a greater degree of collaboration in the future. Malinowski's contribution seems to have been written in ignorance of most or all of the work done by the Finnish and American schools, as well as of the theories of Bartlett. Bartlett exhibits a thorough familiarity with the work of the American school, but does not appear to be aware of the Finnish school's method of analysis.

Boggs (17) has taken the initiative in exploiting, from a new angle, the possibilities presented by indexes, arranged according to Aarne's system of classification,[1] of the folk-tale material collected in large linguistic areas. In 1930, when his survey was written, indexes were already available for Lapland, Finnish-speaking Finland, Swedish-speaking Finland, Esthonia, Livonia, Norway, Hungary, Rumania, and Spain. For each area, Boggs counted the variants of all tale-types in the larger sections of the index, and computed the proportion to the total number of variants from that area which the various sections represented. The results, shown in a table, are held to reveal to what degree, e.g., animal, magic, or religious tales figure in a given people's lore, conclusions which Boggs suggests may be interpreted " in the light of what is already known of the character of the people " (p. 4).

Thus Finland is found to have the lowest, and Spain the highest, percentage of religious tales; Finland is 97 per cent Protestant, Spain the most Catholic of peoples. Some relation between the religion and the folk-tales of a people may therefore be surmised. The Finnic, Lappish, and Keltiberian peoples show similarity in that they all rank high in animal tales and low in magic tales. Yet while the neighbouring Finnic and Lappish groups both rank high in ' stupid ogre ' tales, the Finnic rank high in jokes and anecdotes, the Lappish low. The author notes that, in every index, jokes and anecdotes about a man greatly outnumber those about a woman.

Boggs also endeavoured to estimate the degree of " uniqueness " of each collection, by counting the number of tale-types which occurred in one index only. A high percentage of the Livonian and Spanish material proved to be relatively unique, and a low percentage of the Finnish-Finnish, Swedish-Finnish, and Norwegian. But variation ranges only from 33 per cent, in the case of magic tales, to 8 per cent, in the case of *novelle*,[2] and the " most striking feature in the whole chart is the great *uniformity* which underlies the variations " (p. 13).

Boggs emphasizes the tentative nature of all the conclusions reached, in view of the limitations of the indexes themselves.

[1] See Section IV, A.

[2] The Italian term is commonly used by folklorists to distinguish a kind of ' merry tale ', or short story, of which those in Boccaccio's *Decameron* are typical.

Although there is uniformity in the arrangement of the material, no definition of style is given, and some compilers may therefore have included texts which others would have rejected as literary. The material has been collected by hundreds of different people, working independently, each with his own idea of how folk-tales should be gathered. One index does not give the regional distribution of the texts, and in any case the fact that the regions are unequally represented may make it inappropriate to apply conclusions to a whole people.

Nevertheless, Boggs' analysis suggests an interesting line of study, which should be linked with research into the most popular topics in newspapers and periodicals, which psychologists have begun to carry out. Moreover the assessment of group traits, with which the predominant subject-matter of the folk-tales of a given people is to be correlated, inevitably requires the co-operation of psychologists. Thus Boggs writes that the " low percent of magic tales among a people so realistically inclined as the Spanish is easily understood " (p. 10), but unless a ' realistic inclination ' can be defined, and its prevalence among Spaniards objectively established, such a correlation will have no scientific value.

Even more, perhaps, than indexes of tale-types, Thompson's recently published list of folk-tale motifs (79) will facilitate the psychological study of group interests and humour, since collections are gradually being catalogued in this way as well. Among the headings used by Thompson are: favourable, and unfavourable, traits of character; the humour of discomfort, and of physical disability; humour dealing with professions, social classes, races, or nations, with sex, with drunkenness, and with lies and exaggeration.

Stylistic analysis, as Thompson points out (78), has scarcely been attempted, yet without it the influence of written versions on oral cannot be investigated. Some of the conclusions drawn by Bartlett from his experiments bear on style (see Section IV, D, 4), but the aid of methods of analysis evolved by literary criticism will no doubt also prove indispensable to progress in this direction.

A new task for psychological research has been suggested by Professor Stith Thompson in a personal communication (11th November, 1937). The folklorist of the Finnish school has been ' checking ' changes in traditional material with an *a priori* set of

laws (see Section IV, A). The psychologist might, however, take the same material and instead try to work out inductively the psychological principles which the changes illustrate. Thompson considers that the monographs on individual folk-tales written by W. Anderson (6), E. Rösch (72), and J. de Vries (82) would be particularly suitable for the purpose.

The results of such a study would undoubtedly be of great interest, both to psychologists, who could compare them with, e.g., the conclusions drawn from Bartlett's experiments on remembering, and to those folklorists who wish to infer historical sequences from variants of folk-tales. The ultimate validity of the results reached would, however, be dependent on the correctness of the alleged chronological order in which the variants have been arranged.

This question leads to what is probably the most urgent undertaking for future research: the 'field' study of successive changes in folk-tales, or other folk-lore material, *as they occur*. Although benefits will certainly be derived from an extension of the experimental method and the close comparison of its results with those attained by folklorists through other techniques, no definite conclusions can be reached until a large number of tales have been studied, over a considerable period, in the setting of real life.

Jameson has translated, annotated with comparative material, and discussed the significance of Hu Shih's account of the metamorphosis of a Chinese story from a fairly well-authenticated historical episode of the Sung dynasty (A.D. 960–1126), through various novels, plays, and stories, to a well-developed example of the *märchen* of persecuted wives in the Ching dynasty (A.D. 1644–1912).[1] This account deserves careful study; but it is obviously still more desirable that contemporary change should be directly witnessed. The nearest approach to this desideratum of which I have heard concerns the unintentional introduction by F. H. Cushing of an Italian tale into an American Indian tribe.

Cushing (1857-1900) lived for five years in Zuñi Pueblo, mastered the language, was adopted into a clan under a sacred name, became a Priest of the Bow, lived with the Governor's family, and

[1] (45), pp. 105–133.

exercised important religious functions in the community.[1] In 1886, when Cushing was on a journey with three Zuñis, and they were all telling folk-tales to friends, Cushing related " The cock and the mouse ", from T. F. Crane's *Italian Popular Tales*. About a year later, at Zuñi, in somewhat similar circumstances, Cushing was greatly surprised to hear one of the men who had been with him on the journey give a Zuñi version of the Italian tale. This he recorded ; it is more than six times as long as the Italian version, and is said to reveal a marked degree of adaptation to the Zuñi environment and modes of thought.[2]

Although there does not appear to be any evidence regarding the extent to which the tale as told by Cushing corresponded to the printed Italian version of the tale, and we also know nothing of the manner in which it was related, either by himself or by the Zuñi, the fact that the agent and occasion of the transmission of a tale to a new group are here clearly established makes this record extremely valuable.

Dr. S. Ó Duilearga states, in a personal communication (3rd October, 1938), that the Irish Folklore Commission has recently been recording, in Irish, the traditions which J. Curtin took down in English over forty years ago, the same two informants being used. There seems to be a remarkably close correspondence between the two sets of texts, but the material has not yet been fully analysed.

In conclusion, the hope may be expressed that the theories and methods of the various contemporary schools of folkloristic study may soon be brought to bear on the well-documented oral traditions of a single community, the other aspects of whose culture have been thoroughly investigated by means of anthropological and sociological research. If representatives of each school agreed to work at first in isolation, it might well be found that a given motif or tale-type, which one could easily trace from India, was regarded by another as a clear reflection of some custom or institution characteristic of the particular group, while a third as definitely attributed it to infantile repressions. The consultations or collaboration which might result from such a tournament would certainly greatly advance folkloristic research.

[1] From M. Austin's " Introduction " to (27), pp. xxi–xxviii.
[2] (27), p. 411 ff.

V. METHODS OF COLLECTING FOLK-LORE

A. THE INFORMATION REQUIRED

Because of the important role which amateur collectors will certainly continue to play in the gathering of folk-lore material, a few words on the details which should *always* accompany records are necessary.

There are some excellent precepts in "The handbook of folklore",[1] but they are not always followed,[2] and in any case they are insufficient. Persons answering a questionnaire on folkloristic topics recently sent out by the Dialect Archive in Uppsala (53) are asked to supply the following information:

(i) The place (community, village, estate or house), parish, and county to which the statements refer;

(ii) The recorder's name, occupation (title), and postal address;

(iii) The informant's[3] name, occupation, year of birth, place of birth (village and parish), and the length of time he has resided in the place to which the report relates;

(iv) The date when the record was made.

This list should, however, be considered as a *minimum*, and could always with advantage be supplemented by further information, of the kind described in Chapter II, Section IV, as essential for records of social psychological observations.

B. TECHNIQUES OF RECORDING

Mechanical methods of recording are being increasingly exploited, and they have already been mentioned in connection with the work of the Irish Folklore Commission (see Section II, C).

The mechanisms employed vary greatly in cost and in the durability and quality of the resulting record. Collectors should communicate with dialect and folk-lore archives, as well as with psychological laboratories where gramophone records are used for experimental work,[4] in order to be able to adopt the most satisfactory method that has been evolved at a given time.

[1] (21), pp. 18–19, 342.

[2] E.g. in the two "Collectanea" in *Folk-Lore*, 1931, xlii, p. 293, where the ages of both informants, and the status of one, are omitted.

[3] The term 'informant' here indicates the person from whom the 'recorder', who writes to the archive, obtained his information; in some cases, however, the 'informant' sends his own report.

[4] E.g., The Cambridge Psychological Laboratory.

In many cases, however, the collector will be taking down notes by hand, and for this purpose it is advisable to learn an adequate phonetic notation. Some alphabet is usually already being employed by philologists for the study of the local dialect. Of general value is the alphabet of the International Phonetic Association (64).[1]

Shorthand is not to be recommended, unless the informant is unwilling to repeat his tale, or to recount it at a sufficiently slow pace for a longhand record; phonetic nuances cannot easily be rendered in shorthand, and error may easily creep in during the process of deciphering it.

The Dialect Archive at Uppsala keeps some of its manuscript notes on a special kind of paper,[2] designed to resist wear and the action of time. A careful choice of paper should be made by all private collectors of folk-lore, as well as institutions, since much of it is usually destined to remain unpublished for decades.

C. THE USE OF QUESTIONNAIRES

Folkloristic questionnaires have been referred to in the account of Swedish research (see Section II, A). The questionnaire method as used by psychologists is fully discussed in Chapter IX, and not a few of the same caveats are relevant to their use by folklorists, although widely varying degrees of caution can be discerned.

This type of inquiry appears to have begun very early in Germany and the North, the memorial of Gustavus Adolphus being in fact a questionnaire. W. Mannhardt (1831–80), a follower of Grimm's, who travelled widely in Germany collecting data on custom and belief, sent printed questionnaires to people in foreign countries as well as in his own. The replies which he received have been preserved, and are being carefully analysed, from a somewhat different point of view, by contemporary students of folk-lore.[3]

The large *Atlas der Deutschen Volkskunde*, now in course of preparation, represents the most extensive application of the questionnaire method hitherto made. Its maps are based entirely on the replies

[1] Obtainable from the editors, P. Passy (20, Rue de la Madeleine, Bourg-la-Reine, Seine, France) and Daniel Jones (University College, Gower Street, London, W.C. 1).

[2] Made by Munktells Pappersfabriks A.-B., Grycksbo, Sweden, in accordance with standards established by the State; obtainable from Finpappersbrukens Försäljnings A.-B., Stockholm.

[3] Cf. von Sydow (74), pp. 23–4, and Christiansen (24), p. 90.

received, from 23,000 persons in different parts of the country, to 5 questionnaires, each dealing with 50 topics, on every one of which between 2 and 5 questions are put. The topics are usually quite unrelated. Examples are: (1) Monday as a lucky and an unlucky day. (16) What sort of a creature do people believe to be sitting in the moon? (18–19) Who brings little children? (*a*) Stork; Midwife. (41) Occurrence of Mother's Day in the year 1932.[1]

Erixon (29) has described the use of questionnaires on special topics, one being devoted to each, in the investigations organized by the Northern Museum, Stockholm. He considers that questionnaires are appropriately used as *auxiliaries* to comprehensive field research, which in these investigations is conducted (i) by trained specialists attached to the Museum, working singly or in groups, (ii) by students who are undergoing training, and (iii) by local residents. It is the local residents, drawn from all classes, who answer the questionnaires; often they have already been through a short course in folkloristic methods, but in any case they are all personally interviewed, sooner or later, by one or more of the scientific investigators.

The questionnaires used by the Uppsala Dialect Archive and by the Northern Museum are extremely detailed. Some of them resemble small monographs, and they are often illustrated by photographs or drawings.[2]

REFERENCES

(1) Aarne, A., "Finnische Märchenvarianten," *FF Communications*, 1911, No. 5. pp. 167.
(2) Aarne, A., "Leitfaden der Vergleichenden Märchenforschung," *FF Communications*, 1913, ii, No. 13. pp. 86.
(3) Aarne, A., "Vergleichende Rätselforschungen," *FF Communications*, 1918–1920, iv, Nos. 26–8. pp. 178, 216, 59.
(4) Aarne, A., "Verzeichnis der Märchentypen," *FF Communications*, 1910, i, No. 3. pp. 63.
(5) Aarne, A., and Thompson, Stith, "The types of the folk-tale," *FF Communications*, 1928, xxv, No. 74. pp. 279.
(6) Anderson, W., "Kaiser und Abt," *FF Communications*, 1923, ix, No. 42. pp. 449.
(7) Arensberg, C. M., *The Irish Countryman*. London: Macmillan, 1937. pp. 216.
(8) Bartlett, Sir F., *Psychology and Primitive Culture*. Cambridge University Press, 1923. pp. 294.

[1] The method has been fully described by Röhr (71). See also Pessler (63).
[2] See, e.g., the one on fishing methods (33).

(9) Bartlett, Sir F., " Psychology in relation to the popular story," *Folk-Lore*, 1920, xxxi, 4, 264–293.
(10) Bartlett, Sir F., *Remembering*. Cambridge University Press, 1932. pp. 317.
(11) Berg, G., " Nordiskamuseets arkiv," *Folk*, i, 2, 216–17.
(12) " Betänkande med förslag till ett systematiskt utforskande av den svenska allmogekulturen," *Statens Off. Utredn., 1924*. Stockholm : 1926, i, pp. 156 ; 1927, ii, pp. 203.
(13) Boas, F., " The development of folk-tales and myths," *The Scientific Monthly*, 1916, iii, 4, 335–343.
(14) Boas, F., " Dissemination of tales among the natives of North America," *J. Amer. Folk-Lore*, 1891, iv, 13–20.
(15) Boas, F., " Mythology and folklore," *General Anthropology* (ed. F. Boas). Boston : Heath, 1938, chap. 13.
(16) Boas, F., " Tsimshian mythology," *31st Ann. Rep. Bur. Amer. Ethnology, 1909–1910*, 1916, 29–1037.
(17) Boggs, R. S., " A comparative survey of the folktales of ten peoples," *FF Communications*, 1930, xxxiii, No. 93. pp. 14.
(18) Bolte, J., and Polívka, G., *Anmerkungen zu den Kinder- und Hausmärchen der Brüder Grimm*. Leipzig : Weicher, 1913–1930. 4 vols.
(19) Brabrook, E. W., " The organization of local anthropological research," *J. Roy. Anthrop. Inst.*, 1893, xxii, 262–274.
(20) Bühler, C., " Das Märchen und die Phantasie des Kindes," 3rd ed. *Zsch. f. Angew. Psychol.*, 1929, Beiheft 17. pp. 88.
(21) Burne, C. S., (ed.), " The handbook of folk-lore," *Publ. Folk-Lore Soc.*, 1913, lxxiii. pp. 364.
(22) Campbell, Å., " Landsmålsarkivet i Uppsala," *Folk*, i, 2, 214–16.
(23) Campbell, Å., *Våra Bondgårdar*. Lund : Carl Blom, 1921. pp. 182.
(24) Christiansen, R., " Norwegian folklore-research through 25 years," *Folk*, i, 1, 80–93.
(25) " Congrès International de Folklore," *Man*, xxxvii, 1937, 161.
(26) Cox, M. R., " Cinderella : Three hundred and forty-five variants," *Publ. Folk-Lore Soc.*, 1893, xxxi. pp. 535.
(27) Cushing, F. H., *Zuñi Folk Tales*, 2nd ed. New York : Knopf, 1931. pp. 474.
(28) Eberhard, W., " Typen chinesischer Volksmärchen," *FF Communications*, 1937, I, No. 120. pp. 437.
(29) Erixon, S., " Die Frage der Kartographischen Darstellung, vom Standpunkt der nordischen Ethnologie in Schweden aus betrachtet," *Folk*, 1937, i, 2, 169–180.
(30) Erixon, S., " Introduction," *Folkliv*, 1937, 1, 5–12.
(31) Erixon, S., " Regional European Ethnology," *Folkliv*, 1937, 2/3, 89–107 ; 1938, 3, 263–294.
(32) Erixon, S., *Skultuna Bruks Historia*. Stockholm : Tisells, 1921, i, pp. 790 ; 1935, ii, pp. 655.
(33) " Fiske," *Landsmålsarkivets Frågelistor*, 1935, No. 37. Tierp (Sweden). pp. 72.
(34) Fleure, H. J., " The place of folklore in a regional survey," *Folk-Lore*, 1931, xlii, 51–[illegible]

(35) Flugel, J. C., *A Hundred Years of Psychology*. London : Duckworth, 1933. pp. 362.
(36) " Folkminnesforskning, nordisk etnologi," *Utredning i Frdga om Universitetens Verksamhet och Organisation* (= Investigation (by the State) into the Activities and Organization of the University). Stockholm, 1937.
(37) Gair, G. R., " The present state of folk cultural studies in the British Isles," *Folk*, 1937, i, 1, 99–102.
(38) Gomme, G. L., *Folklore as an Historical Science*. London : Methuen, 1908. pp. 366.
(39) *Handwörterbuch des Deutschen Aberglaubens*. Berlin : W. de Gruyter, 1927 ff.
(40) *Handwörterbuch des Deutschen Märchens*. Berlin and Leipzig : W. de Gruyter. 1930 ff.
(41) Hartland, E. S., *The Science of Fairy Tales*. London : Scott, 1891. pp. 372.
(42) Hyltén-Cavallius, G. O., *Wärend och Wirdarne : ett Försök i Svensk Ethnologi*. Stockholm : Norstedt, 1864, i, pp. 503 ; 1868, ii, pp. 466.
(43) Jameson, R. D., *A Comparison of Literatures*. London : Kegan Paul, 1935. pp. 414.
(44) Jameson, R. D., *A Short History of European Literature*. Shanghai : Commercial Press, 1930. pp. 1529.
(45) Jameson, R. D., *Three Lectures on Chinese Folklore*. Peiping (Peking) : North China Union Language School, 1932. pp. 164.
(46) Jones, E., " Psycho-analysis and folklore," *Jubilee Congress of the Folk-Lore Society, 1928, Papers and Trans*. London : Glaisher, 1930, 220–237.
(47) Jung, C. G., *Psychological Types* (trans. H. G. Baynes). London : Kegan Paul, 1923. pp. 654.
(48) Jung, C. G., *Psychology of the Unconscious* (trans. B. M. Hinkle). London : Kegan Paul, 1922. pp. 339.
(49) Krappe, A. H., *The Science of Folk-Lore*. London : Methuen, 1930. pp. 344.
(50) Krohn, K. L., " Die Folkloristische Arbeitsmethode," *Institutet for Sammenlignende Kulturforskning*, 1926, Serie B, v, pp. 167.
(51) Krohn, K. L., *Mann und Fuchs*. Helsingfors : Frenckell, 1891. pp. 70.
(52) Krohn, K. L., " Übersicht über einige Resultate der Märchenforschung," *FF Communications*, 1931, xxxiv, No. 96. pp. 181.
(53) *Landsmdlsarkivets Frågekort*, Serie 1. Uppsala, 1932.
(54) Liljeblad, S., " Swedish Folk Tale Collections," *Folk-Liv*, 1938, 1, 77–102.
(55) Lowie, R. H., *The History of Ethnological Theory*. London : Harrap, 1937. pp. 296.
(56) Magnus, Olaus, *Historia de Gentibus Septentrionalibus*. Rome, 1555. pp. 815.
(57) Malinowski, B., *Myth in Primitive Psychology*. London : Kegan Paul, 1926. pp. 128.
(58) Myres, J. L., " The science of man in the service of the State : Presidential Address," *J. Roy. Anthrop. Inst.*, 1929, lix, 19–52.

(59) Nolte, R., "Analyse der freien Märchenproduktion," *Studien zur psychologischen Ästhetik und Kunstpsychologie*, 1931, Heft 4 (*Pädagogisches Magazin*, Heft 1256). pp. 144.
(60) Ó Duilearga, S., "The Irish Folklore Commission and its work," *Travaux du Ier Congrès Intern. de Folklore*, 1937, *Compte-rendu*. Tours: Arrault, 1938, 37–40.
(61) Olrik, A., "Nogle Grundsaetninger for Sagnforskning," *Danmarks Folkeminder*, 1921, No. 23. pp. 199.
(62) Percy, T. (coll. and ed.), *Reliques of Ancient English Poetry*, 2nd ed. London, 1767. 3 vols.
(63) Pessler, W., "Volkstumsatlas von Niedersachsen," *Veröffentlichungen der Historischen Kommission für Hannover, Braunschweig, Schaumburg-Lippe und Bremen*, xiv. 1933, Lief. 1, pp. 20, 8 maps; 1936, Lief. 2, pp. 12, 5 maps.
(64) "The principles of the international phonetic association," *Maître Phonètique*, 1912, Suppl. pp. 39.
(65) Rank, O., *Das Inzest-Motiv in Dichtung und Sage*. Leipzig and Vienna: Deuticke, 1912. pp. 685.
(66) Rank, O., "The myth of the birth of the hero" (trans. F. Robbins, and S. E. Jelliffe), *Nervous and Mental Disease Monog. Series*, 1914, No. 18. pp. 100.
(67) Rattray, R. S., *Hausa Folk-Lore*. Oxford: Clarendon Press, 1913. i, pp. 327; ii, pp. 315.
(68) Reik, T., *Ritual: Psycho-Analytic Studies* (trans. D. Bryan). International Psycho-Analytic Library, No. 19. London: Hogarth Press, 1931. pp. 367.
(69) Richards, F. J., "The place of folklore in a regional survey," *Folk-Lore*, 1931, xlii, 38–48.
(70) Ricklin, F., "Wishfulfillment and symbolism in fairy tales" (trans. W. A. White), *Nervous and Mental Disease Monog. Series*, 1915, No. 21. pp. 90.
(71) Röhr, E., "Die ersten Kartenreihen des Atlas der deutschen Volkskunde," *Folk*, 1937, i, 2, 113–146.
(72) Röach, E., "Der getreue Johannes," *FF Communications*, 1928, xxvii, No. 77. pp. 216.
(73) Strangways, A. H. Fox, and Karpeles, M., *Cecil Sharp*. London: Oxford University Press, 1933. pp. 233.
(74) Sydow, C. W. von, *Vdra Folkminnen*. Lund: Dômförlaget, 1919. pp. 209.
(75) Tabourot, J. (pseud. Arbeau, T.), *Orchésographie*. Lengres, 1588. pp. 104.
(76) Taylor, A., "The black ox," *FF Communications*, 1927, xxiii, No. 70. pp. 91.
(77) Taylor, A., "Precursors of the Finnish method of folk-lore study," *Modern Philology*, 1928, xxv, 4, 481–491.
(78) Thompson, Stith, "The folk-tale since Basile," *The Pentamerone of Giambattista Basile* (ed. N. M. Penzer). London: John Lane the Bodley Head, ii, App. B (*c*), 286–304.
(79) Thompson, Stith, "Motif-index of folk-literature," *Indiana University*

Studies, 1932–6, Nos. 96, 97, 100, 101, 105, 106, 108–112. 6 vols. (also issued as *FF Communications*, 1932–6, Nos. 106–109, 116, 117).
(80) Thompson, Stith, "Purpose and importance of an index of types and motifs," *Folk-Liv*, 1938, ii, 1, 103–8.
(81) Thompson, Stith, *Tales of the North American Indians*. Cambridge, Mass.: Harvard University Press, 1929. pp. 386.
(82) Vries, Jan de, "Die Märchen von klugen Rätsellösern," *FF Communications*, 1928, xxiv, No. 73. pp. 439.
(83) Wesselski, A., "Versuch einer Theorie des Märchens," *Prager Deutsche Studien*, 1931, xlv. pp. 204.
(84) Westermarck, E., *Wit and Wisdom in Morocco: A Study of Native Proverbs*. London: Routledge, 1930. pp. 448.
(85) Wundt, W., *Elements of Folk Psychology* (trans. E. L. Schaub). London: Allen and Unwin, 1916. pp. 532.

SUGGESTIONS FOR GENERAL READING

Bartlett (8, 9, 10), Boas (15, 16), Boggs (17), Erixon (31), Jameson (45), Krappe (49), Krohn (50), Malinowski (57), Taylor (76), Thompson (78, 80).

PART IV
SOME METHODS OF SOCIOLOGY

CHAPTER XV
THE METHODS OF SOCIAL CASE WORKERS

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I. THE FUNCTION OF SOCIAL WORKERS

Social workers, as their title implies, have a practical function. Called into existence because of human needs, the urgency of these needs has always made a first claim upon their time and skill. Such interest as their ideas may hold for the readers of this volume lies rather in the empirical value of cumulative experience than in any special methodology or body of knowledge. Their methods have been evolved from daily practice, and have only recently been subjected to critical study.

The purpose of social work may perhaps be briefly described as the promotion of a greater degree of compatability between the satisfaction of the needs and desires of the individual and the requirements of society. Social workers have, however, usually been called upon to deal with symptoms of friction, or failure in adaptation, and it is only in recent years that a more positive aim can be discerned.

II. THE HISTORY OF SOCIAL WORK

In the short history of social work there have been significant changes both in theory and method. The need for training in the social sciences was not recognized before the end of the last century, although social service has been carried out in some form in all so-called 'civilized' societies. Social work was at first regarded as an end in itself, a spontaneous expression of philanthrophy, often sanctioned by religious belief, and calling neither for justification nor analysis (15, 26).

At each stage in the development of new methods and branches of study it has been necessary for the pioneers to argue the case for further discipline in thought and practice, and to meet the objection that such discipline might destroy the personal value of the human relationship. The Charity Organization Society, which was largely responsible for the first experiments in training in this country at the turn of the century, laid down certain principles of work, designed to remedy the evils of indiscriminate giving. Foremost among these principles was the need for knowledge of the individual and his circumstances, so that, in offering help, the social worker would be able to foster individual characteristics which were socially desirable (19). The transition is illustrated by C. F. Mallet's statement (17): "It has been said that the problem of this generation is to make benevolence scientific".

The first courses of study, provided in 1893, concentrated more upon man's circumstances than upon man himself. During the post-war years, however, when social workers had received government recognition and several full-time courses had been established, psychology gradually acquired a place in the syllabus of most social science departments, though sometimes not without a struggle. It is interesting to find that in a series of lectures given to the Charity Organization Society, in 1918, C. Burt replied to a direct challenge that, although laboratory psychology could provide the social worker with little else but "an entertaining and even a suggestive hobby", the new psychology of individual differences should prove to be her [1] "master science" (4).

It was not until a decade or so later that the study of psychiatry, which profoundly influenced the development of social work in the United States, came to be considered as relevant to training in this country. It was then found to be necessary to add a further year of clinical social work and theoretical study of mental health to the two years' training for the profession as a whole.

The principal subjects studied in the first two years are industrial history, economics, central and local government, psychology, and social philosophy. Practical training, which may occupy as much

[1] The feminine pronoun will be used to denote the social worker, since the great majority of social case workers are, at present, women, and also for convenience in distinguishing between the social worker and the client, for whom the masculine pronoun is throughout employed.

as two-thirds of the student's time, takes the form of practical social service under the supervision of an experienced worker, and with the help of regular consultations. Some students assist in the collection of material for social surveys and make 'visits of observation', but for the most part, even in the training period, they work with particular agencies, and the methods which they learn are necessarily related to the service concerned (1, 3, 9, 15, 22, 23).

III. TYPES OF SOCIAL WORK

The two methods of approach to the problem of adjustment between the individual and society are, broadly speaking, the modification of social organization, and the development of the individual's capacity to adapt to the society in which he lives. While both aspects of adjustment play a part in all types of social work, the members of this profession can be grouped roughly into two corresponding types, the organizers, administrators, or group workers, on the one hand, and the case workers on the other.

Organizing or administrative work includes the planning of social facilities for particular areas or sections of the population; rehousing, providing for recreation, training, and employment; industrial welfare and inspection; and special services for different age groups, or for those suffering from particular handicaps. The other type of social work is concerned with the specific needs of individuals or families. For those concerned with social organization, the methods of investigation comprise studies of a general character, such as *The New Survey of London Life and Labour* and the *Social Survey of Merseyside*, and studies of particular problems such as mental deficiency or unemployment (see Chapter XVIII). From the point of view of attempting to bring about social change, however, surveys form only the basis for more detailed analyses, in which the significance of social conditions is seen in terms of individual experience. The two approaches must therefore be considered in close relationship to each other.[1] In so far as studies of individuals enter into a survey of social conditions, the methods

[1] For valuable illustrations of how this may be done, see (5), (7), (18), (24), (25), (29).

used fall within the province of case work, to which the following discussion will be confined.

Although there are recognized practices common to all branches of social case work, there is a growing tendency towards specialization in accordance with the nature of the needs or problems presented. Thus the social difficulties arising out of physical disease, which require co-operation between the physician and the 'almoner' or medical social worker, call for specialized knowledge and practical training. Industrial conditions must be studied more intensively by those who are responsible for selecting employees and providing for their personal needs.[1] Recently a special form of training has also been developed for what is generally known as 'psychiatric social work', in which social workers collaborate with medical and educational psychologists in the study and treatment of mental disturbance and delinquency, and in the promotion of mental health through the 'guidance' of children.[2]

To some extent these divisions are arbitrary, and have arisen because of the stage at which particular social problems have presented themselves, rather than as the result of a rational analysis of the purpose and requirements of the various services. Many social workers who have received a training in medical and educational psychology, for instance, have found it relevant to all types of social case work.

In the discussion which follows it must be understood that the methods described can only be regarded as illustrative of the practices of social workers, and do not represent standards which are universally accepted either in theory or practice.

IV. THE RELATION OF METHOD TO PURPOSE

The social case worker is usually called upon to study some particular problem which centres in family life. Her methods of investigation are influenced both by the nature of the problem

[1] Here the methods of the social worker and the industrial psychologist partly overlap; see Chapter XVII.

[2] Detailed descriptions of the work and training involved in various branches of social case work have been published by the Charity Organization Society, The Hospital Almoners Association, the National Association of Probation Officers, the Association of Psychiatric Social Workers, and other organizations. See also (27).

and by the function of the agency she serves. She must always bear in mind the possible effects which her methods of seeking an explanation of the problem may have upon her clients. Different schools of thought exist among social case workers, however, with regard to the relative emphasis to be placed upon the assembling and interpretation of facts, on the one hand, and upon the art of entering into a relationship which will lead the individual towards a more adequate solution of his difficulties, on the other.

Important methodological implications follow from this distinction. The social case worker who aims chiefly at what has sometimes been called 'social diagnosis' (20) tends to draw her facts from many different sources, thereby throwing light upon variations in behaviour and attitude, and attempting to distinguish between actual events and the significance these events may have for different people. In her records there is generally some recognizable stage at which these facts are summarized and interpreted, and plans for treatment outlined. But the social worker who stresses her personal relationship with the client may question the desirability of such a systematic study. She is primarily concerned with the meaning of social experience for the individual, and she considers it her function to help him to discover this meaning by the process of personal interviews (21). Her records, therefore, tend to consist of a much more detailed account of the 'give and take' of the interview, and while it may be accompanied by a running commentary of an interpretative nature, it will distinguish less definitely between the accumulation of facts, their analysis, and the resultant action.

In the brief description of methods given in the present chapter it will not be possible to do justice to these differences, and, in fact, much of the social case work in this country represents a compromise between the two extremes.

In broad terms, the social worker may be said, then, to be seeking an explanation of a given social situation in terms of general laws of social behaviour and mental life. There are certain widely used methods of reaching such an explanation. In the first place, the focus of observation is determined by theories concerning the relationships between facts. This is clearly true both of the social worker who sets out to make a study of the whole situation, using

many sources of information, and of the one who concentrates on her own relationship with the client. The theories may be explicit in the form of ' case history outlines ' of the facts which have been found relevant in the past, or they may be implicit in the attitude of the worker, guiding her attention and the course of discussion in interviews.

For example, a worker trying to throw light upon the causes of tuberculosis ordinarily makes very detailed observations on the physical living and working conditions of the patient. His social relationships will be regarded as significant in so far as all experiences affect the serenity of the patient, reinforcing, or detracting from, his desire for recovery, and psychological attitudes will tend to be recorded from this standpoint. The social worker's interests, in such a case, will depend on contemporary theories as to the probable causes and best methods of treatment of a clearly recognized morbid condition.

If, on the other hand, she is called upon to discover the explanation of a complaint from the parents that their adolescent boy is " beyond control ", the investigator is obviously dealing with a relationship in which sociological and personal data may play an equally important part. Here the range of theories must be far wider, with a correspondingly broad scope for observation. Causes are rarely simple when behaviour has been socially defined. The enquirer is concerned with finding the reasons for both the definition and the behaviour to which it refers. She must be prepared to discover, perhaps, a social fiction based upon the adults' need for a convenient object of blame. Or she may be confronted by a problem similar to that of the tubercular patient, the child's behaviour being one aspect of the after-effects of a morbid condition such as *encephalitis lethargica* or juvenile paresis. As each possibility is entertained in turn, it imposes its own framework, within an otherwise limitless field of interest.

V. THE DERIVATION OF HYPOTHESES

It is important to enquire into the sources of the theories which guide this initial selection. The writer has made a comparative study (unpublished) of eighty case records, from three agencies, drawn up in the years 1924 and 1934. The significant changes in content

which were found to have taken place by the end of the ten-year interval undoubtedly bear some relationship to the development of new theories during the same period. The 1934 records dealt, for instance, in a far more detailed way with different aspects of personality, and with the specific nature of family relationships, than did the same type of record in 1924. The earlier comments were more concerned with certain kinds of behaviour, such as 'cleanliness', 'honesty', or 'sobriety', and with material conditions. Presumably the change resulted largely from the growing conviction that social problems are more dependent upon the attitudes and intimate social relationships of the individual than upon his superficial habits and physical surroundings.

The sources of the theories which form the framework of most case studies are varied. The new emphasis, for instance, upon the individual's own account of his experiences derives partly from the fact that, in practice, many attempts at solving social problems have been found to fail unless some discontent with the existing situation is already present. It is therefore now recognized to be of great importance to know what the individual feels and thinks about his own problem, as well as the way in which it has been interpreted by his social group.

Obviously these two phenomena are interdependent. It has been found, for instance, that whereas abortion may be undergone by one individual without any apparent disturbance of equilibrium, in another case the conflict may be so great that it is accompanied by severe mental disturbance. In two such contrasting instances, local opinion was quoted by the individuals concerned as being the main cause of the absence or presence of anxiety. The extent to which this explanation indicated a difference in innate stability, or a projection of the client's own conflicts, could only be determined by ascertaining the prevalence of relevant group opinion and the way in which it impinged upon individual experience.

For theories about this kind of relationship the social worker relies largely upon the knowledge of society that she has gained by being a member of it herself. It is in this assumption of knowledge that her methods differ most markedly from those of the anthropologist (see Chapter XII, Section III). There are both advantages and disadvantages in familiarity, as it were, from within. The social worker has a far greater wealth of material; she can

draw upon history, biography, novels, newspapers, drama, films, and advertisements, as well as the more formal type of information derived through professional education. Yet the very identification of her own experience with that of the subject of study will be apt to blind her to subtle differences. More often than not she belongs to a stratum of society radically different from that of her client, and that fact unquestionably affects their relationship, and her interpretation of the facts.

In order to offset the limitations thus entailed, many social workers have felt it essential to gain a more intimate knowledge of at least one neighbourhood. The crime rate, for instance, is much higher in some areas than in others, and familiarity with accepted standards in such a district will necessarily affect the interpretation of individual behaviour (5, 11, 24). When the social worker becomes acquainted with local customs her observations acquire greater significance. In Birmingham, for example, the fire-side brasses are the pride of the family, and among the last treasures to be sacrificed; their absence in a household of that area would therefore justify special comment. Racial and religious traditions are so significant that they have led to special organizations for social work, not only because of the value of common attitudes in bringing about a constructive relationship, but because an understanding of tradition and belief may lead to a finer perception of the nature of social difficulties.

In support of her theories the social worker is sometimes able to refer to carefully conducted surveys, sometimes to her own special knowledge of the history and structure of the social institutions involved, and sometimes only to impressions gained from cumulative experience. While these impressions have a certain empirical value, they are often unreliable, and there is clearly a great need for more systematic social studies, of a type which could form a background for case histories.

It was with this need in view that a discussion group including anthropologists, psychologists, sociologists, and psychiatric social workers was organized at the London School of Economics in 1935. Taking as a starting-point the conflict between adolescents and their parents which is widely prevalent in European societies, it was found that the majority of the social workers assumed that such conflict was largely due to the physical and psychological changes

in the individual at this period of life, i.e. that some degree of revolt against authority was to be expected of the normal adolescent. This view was considerably modified, however, after hearing descriptions of the relationship between adolescents and their parents in certain primitive societies, where no conflict was observed. Attention then shifted to the social phenomena of our society, in which adult responsibilities are conferred relatively late and codes of behaviour are far less clearly defined, with the result that the authority of parents tends to express itself in personal interference of a more emotional character than seems to be usual in simpler cultures.

VI. TYPES OF FACTS STUDIED

Apart from selections of material for specific purposes, as envisaged in Section IV, the social case worker is generally concerned with four main types of data, which may be summarized as follows :

(1) *Personality :* The present manifestations and past history of the behaviour and individual characteristics (abilities, attitudes, interests, etc.) of those members of the family who present special difficulties or needs.

(2) *Social Relationships :* The present manifestations and past history of the individual attitudes, expressed or implied, of different members of the family towards one another, and towards individuals or groups outside the family (encountered in school, recreation, employment, etc.).

(3) *The Material Conditions of Family Life :* The present situation and past history with regard to housing, income, expenditure, equipment, etc.

(4) *Neighbourhood Conditions :* The prevalent material and social-psychological conditions of the neighbourhood, and the opportunities for education, employment, and other types of social relationship, as well as for recreation, which are there provided.

VII. METHODS OF STUDY

The social worker collects her facts by means of testimony, observation, and interview. These three means of gaining information are all used in some form in most case studies, but in varying degrees according to the type of service concerned.

A. TESTIMONY

Testimony may be of a documentary kind. It may consist, for instance, in a letter describing the problem for which help is required; in legal evidence of birth, marriage, or death; in rent books; or in contemporary accounts of the past and present lives of members of the family. In many urban communities there is a considerable exchange of records between different social services. In America most large cities have a 'Mutual Register', at which the formal particulars of applications for help are notified, and through which case records are communicated. It is thus possible to obtain contemporary accounts of families during several generations. In this country similar methods are used in certain areas, but have not met with the same degree of success.[1]

Verbal testimony is often obtained by interview. It is usual, for instance, to consult a child's teacher about his behaviour at school. Some agencies administering relief question employers and landlords about applicants as a matter of routine, although this practice has been increasingly criticized, both because it is resented by the client and because the evidence is frequently prejudiced. If such testimony forms part of the record it is usually entered under a separate heading, and particulars are given about the witnesses, their relationship to the subject of the testimony, their opportunities for accurate knowledge, and any indications which there may be that a biased account is being given.

B. OBSERVATION

It has frequently been claimed that one of the main contributions of the social worker lies in the first-hand observations which she is able to make by visiting clients in their own homes. In the past it has sometimes been rather naïvely assumed that during such visits she is able to observe family life just as it is carried on when she is not present. It has been argued that, if a surprise visit is paid, the family will be 'caught' in situations which would otherwise be concealed. In certain kinds of legal cases, as for instance when cruelty to a child is suspected, this is still one of the methods employed.

[1] For an account of the working of this system of registration, see Macadam (16), pp. 94–8; also (12).

The change of emphasis from the study of events and behaviour to that of individual attitudes has tended, however, to modify this procedure in other types of social work. The confidence of the client is essential if attitudes are to be freely expressed, and scientific as well as ethical considerations have led to new methods of seeking opportunities for observation. It is now usual to arrange appointments, or even to wait for an invitation, before making a visit. More attention is paid to the effect that the role of hostess may have upon the attitude and behaviour of the person visited. Social workers from Child Guidance Clinics are sometimes invited by parents to watch their children playing, so that they may give first-hand reports to the Clinic staff.

C. Bühler arranged for her students in Vienna to become visitors in homes for several weeks at a time, but this method has never, I believe, been used in this country. Most clinics do, however, provide a play-room for children (see Chapter IV), and the social worker often shares with the psychologist the responsibility for making detailed observations of the social behaviour of children under these conditions. Similar opportunities are sometimes found on the playground or in the class-rooms of schools. Detailed observations are often made of the appearance, posture, gestures, tone of voice, and mannerisms of the subjects who are interviewed.

C. INTERVIEW

1. *The Attitude of the Client*

Interviewing remains the chief means of study for the social worker, and it is probably in her use of this method that she has most to contribute towards the technique of social psychological investigation.

It has already been emphasized that the social case worker has become increasingly interested in the individual's attitude towards his circumstances, rather than in his circumstances as such. One result has been that the interviewer is now seldom content to accept the subject's account of events, experiences, and attitudes at their face value. Discoveries concerning unconscious wishes, which produce falsification of fact and ambivalence of attitude, have led to a growing scepticism as to the value of mere accounts of events, even if they are objectively accurate.

Such facts may indeed be of signal importance, but their importance for social work often lies in their relationship to the meaning which they have for individuals. If, for instance, a mother constantly refers to one of her children as a "devil incarnate", while another is described as "a little angel", it may be important to discover whether similar evidence is forthcoming from the father, the school, and the church. This evidence will not be obtained, however, only with a view to ascertaining the accuracy of the mother's statement. However misleading her description of her children may prove to have been, as an expression of her attitude it is of great value for the study of the family. This point of view may be summed up in the statement of W. I. and D. S. Thomas: "If men define situations as real, they are real in their consequences" (28).

It is essential to understand how the subject interprets the purpose of the interviewer. The difficulties encountered in the case of anthropological field work are analysed in Chapter XIII (Section IV). To the social worker people come, or are sent, for many different purposes, but generally in the hope of getting help of a practical kind. Often they are in situations of extreme precariousness, and much may depend upon the result of the interview. Like the patient of the psychiatrist, they may be anxious for 'cure' (see Chapter III, Section II, C), in this case in the form of a solution of a social difficulty, but usually the problem seems to them to lie outside themselves.

The very fact of seeking help implies failure and dependency, and carries with it many of the attitudes typical of such a situation. If, for instance, a mother asks for assistance in placing her child away from home because he is "unmanageable", she may be influenced by neighbourhood opinion, by feelings of guilt in relation to the child, or by a desire to rid herself of responsibility, rather than by any 'real' needs of the child. The social worker may represent to the mother something akin to a censorious neighbour, a kind parent, or a father-confessor, and the account which the mother gives of herself and her family will be coloured accordingly (21).

Again, there grow up in many areas popular conceptions of the methods of social workers, which necessarily affect interviewing methods. People anticipate investigation, and are prepared with

a defence against this onslaught. Arriving on the door-step of a woman who, on the advice of the school medical officer, had reluctantly allowed her son to attend a Child Guidance Clinic for the treatment of his stammer, one social worker was greeted with the words: " Have you come to ask me questions, like the woman who came yesterday ? " " No," replied the visitor, " I've come in case you would like to ask me questions about the clinic." " Well," said the mother, " so I should. I should like to ask you whether you are paid for your job." When an affirmative answer was given, the mother replied, " I should have thought you a fool if you weren't."

Clients as well as social workers develop techniques in interviewing. C. Shaw, the leader of a group of sociologists who carried out their investigations in Chicago by adopting ' natural ' roles within the group,[1] informed the present writer that the residents of a certain district, who made frequent use of social agencies, regarded the agencies in terms of their methods of investigation, and responded to interviews accordingly.

2. *Personal Bias in the Interviewer*

All social workers recognize that personal bias plays an important part in their mode of observation. It is often found, for instance, that young workers tend to identify themselves with the children rather than with the parents in a family study, and to gather such facts as appear to establish parental mishandling. M. Karpf (14) has suggested that the only means of controlling this element is to devise standardized methods of measurement of the kinds of facts in which case workers are interested. In his opinion there is little value in the ' impressions ' of the social worker regarding either personality or circumstances. This point of view is not, however, widely accepted. Many of the impressions recorded relate to facts which are hardly susceptible of standardized measurement. Moreover, even if it were possible for the social worker to use standardized methods of measuring personality, the problem of relating the personality to the complex structure of family life and of the cultural pattern would still remain.

Two methods of controlling personal bias are commonly

[1] Cf. (24), (25).

recognized. One consists in the professional training of the student, in the course of which opportunity is provided for discovering personal prejudices, and an attempt is made to develop insight into the way in which this may affect case work methods (3, 22). The other consists in the practice of submitting case studies for staff or committee discussion. Allowances for individual errors of judgment are made by the staff, and through this process the individual often becomes aware of her own bias.

In all skilled occupations it is recognized that fineness of perception depends to a large extent upon a natural facility, developed by cumulative experience. Theoretical knowledge may guide and discipline such perception, but seldom or never creates it. This is particularly true of skills involving personal relationship, and recognition of the fact is implied in the personal selection of students for training, and also in the important part that practical experience is made to play in the preparation for social work. Just as a physician often diagnoses by the kind of immediate judgment sometimes called 'intuition', checking the diagnosis at a later stage by systematic analysis, so the social worker cultivates and makes use of perception of a specialized kind, and is dependent upon this perception at least in the initial stages of the study of family life.

3. *The Use of Outlines*

Written 'outlines' of the data considered relevant are quite frequently used, but except for the purpose of recording formal identifying facts such as name, age, occupation, and ordinal position in the family, which are generally entered upon a printed 'face sheet', the outlines are seldom produced during an interview, and serve rather as a discipline for the range of observations than as a questionnaire. The social worker has in this respect been influenced by the psychotherapist, and recognizes that the very form and order in which the client talks of his experiences represent significant data which a stereotyped approach might obscure. Outlines are, as a rule, built up gradually by the different agencies using them, and are based on both theoretical knowledge and practical experience. They are often valuable as guides to the final form of the record, serving as an index to various types of facts.

4. *The Conduct of the Interview*

Interviewing is involved in many of the types of investigation described in this book, and the specific methods adopted by the social case worker have many points in common with those of the anthropologist, the psychiatrist, and the vocational adviser.[1] She, too, must modify her technique according to whether she is eliciting facts which are apt to give rise to strong emotion, or others, towards which the subject may be expected to take a more objective attitude. Like the psychotherapist, she must be aware of the subject's tendency to transfer to her the feelings aroused by his own experience, through the process of identification, and she must be prepared for the ambivalent attitude of which both dependency and hostility are manifestations.

Nevertheless there are certain characteristics which are probably peculiar to the interviews of the social worker, and these will receive special attention here.

(*a*) *Variety of Motives*

To the physician the individual comes for cure, and to the vocational adviser for definite recommendations. The procedure adopted may therefore be formulated to some extent, in either case, on the basis of a recognized motive. To the social worker, however, the client comes for a far wider variety of purposes, generally involving not only his own personal needs, but a complexity of problems with his relatives, his school, his employers, his neighbours, or his friends. The need for elasticity in the social worker's interview is thus apparent. The whole process of adjustment may depend upon the skill with which, at an initial interview, the case worker is able to reach some understanding of the nature of the problem, the attitude of the client towards it, and his interpretation of the function of the organization to which he has come for help.

The setting of the interview may be of the utmost importance. If it takes place in an office it tends to remain on a more professional basis, while a home visit introduces certain social attitudes for which special allowances must be made. In recent years this question has been much discussed (14, 22, 30).

[1] See Chapters XII, XIII, III, and XI.

The time factor is also of obvious importance. A client who has been waiting in a queue will have a different attitude towards his interviewer from one who has an appointment, and knows that he can count upon a given period of undivided attention. The desire to monopolize attention, characteristic of childhood, persists to some extent even in relatively mature adults, and for most people involves some resentment at the thought of being merely one of a series. Many social workers find that their clients desire to break down the professional nature of their relationship, to separate the individual from the organization she represents, and to persuade her that there is something unique in his problem. In the conduct of an interview great skill is therefore needed to steer between the extremes of professional detachment and human sympathy.

(*b*) *Scope of the Enquiry*

In most cases the scope of the social worker's enquiry is in a sense somewhat broader than that of the psychotherapist or the vocational psychologist, a circumstance which affects her method of interviewing in two main ways. In the first place, she must be alert to the possible need for using other sources of information. If, for instance, an employment difficulty is mentioned, she must ask herself whether the situation is likely to be illuminated by consulting the employer, at the same time keeping in mind both the ethical principle of confidence, and the psychological effects of suggesting such a step. In problems of a more personal kind she may allow the client's own attitude to determine the range of her study, or she may feel that in the interests of the other persons involved she must have access to supplementary data.

(*c*) *The Service Offered*

In the second place, unlike the psychotherapist or the vocational adviser, the social worker often bears the responsibility of giving or withholding certain services, according to her view of the client's needs. She may have to decide, though usually by consultation with a committee, whether to offer financial help, to arrange for convalescence, or to assist in placing a child in a foster home. If any of

these services are offered, her relationship with the client may extend over a long period of time. Each interview must be regarded as an episode in a process of adjustment during which the initial problem becomes modified and new observations are made.

The interest of the social worker in finding out new facts is therefore affected by the nature of the process of social treatment. She must even be prepared to protect the client against becoming too expansive about his own feelings and so unconsciously involving himself in a relationship for which neither she, nor the agency, are able to shoulder the responsibility (21).

In all types of case work which go beyond the straightforward administration of material needs, some attempt is made to understand personal attitudes. For the study of these the social worker, in common with the psychologist, has found that direct questions serve only a limited purpose. Her method generally consists in eliciting a periodically 'prompted' narrative, in the course of which she is careful to observe the particular association of experiences, and the feeling with which they are described. Accuracy of fact is often obtained more readily by encouraging the client to describe his experiences in his own way than by asking him many questions.

In writing reports one example of spontaneous behaviour may be more significant than any number of adjectives descriptive of personality, since the connotation of these varies greatly from one investigator to another. The type and form of the questions asked are also of great importance. Some interesting conclusions on this topic have resulted from the house-to-house investigations of those engaged in market research.[1]

For some clients narrative is extremely difficult, and responding to questions may give them a welcome sense of security. Reluctance to express feeling is sometimes shown by extreme talkativeness, sometimes by silence, and the skilled interviewer must be able to recognize such mechanisms of defence and to steer her interview according to her understanding of the individual, an understanding often based upon clues derived from posture, gestures, and facial expression.

[1] See, for example, F. Brown, "Some problems in market research," *Some Modern Business Problems* (ed. A. Plant), London: Longmans, 1937, 97–121.

5. *Recording*

The technique of recording in social case work has received a good deal of attention, although little has been written about it in this country. It is the practice of social workers to compile 'case records' for each family, which include [1]:

(*a*) Formal identifying facts, for which a printed 'face sheet' is often used (cf. Section VII, C, 3).

(*b*) An account of the problem for which the individual or family seeks help.

(*c*) A description of the present situation, gained from various sources.

(*d*) A life history of the individual or individuals in the family who present specific needs or problems.

(*e*) A history of the family, sometimes including the second ascending generation, or, in special types of investigation, the third.

The information contained in these records is usually noted down immediately after each interview, although it may not be drafted in its final form until all the data have been accumulated. Policy varies regarding note-taking during an interview. Most workers find that they can make notes about the more formal kinds of facts without undesirable effects, and that in some cases doing so adds to the informant's confidence, particularly if he associates the inquiry with clinical examinations, in which note-taking is a common practice.

It is generally agreed, however, that during discussions of a more intimate kind note-taking is embarrassing, and prevents spontaneity. Some workers have evolved their own individual schemes of association and need only jot down significant words or symbols, which can act as a skeleton mnemonic when the record has to be filled out. This can often be done unobtrusively during an interview, particularly when it is held in an office. Other devices of association which may assist memory consist in changing one's position, or drawing (2, 12).

6. *Interpretation*

The place of interpretation in the records of social workers has

[1] See also Section VI.

been the subject of much discussion. The phrase ' social diagnosis ' has been widely used in America in the past to denote the process of explaining social problems according to their aetiology (20). It is borrowed, of course, from the medical profession, and perhaps with less justification than has generally been assumed. The term ' diagnosis ' implies the possession of sufficient knowledge of the similarities and differences between particular groups of symptoms to justify a classification which has both aetiological and predictive value. Social situations are often too heterogeneous to permit of any such classification, and ' interpretation ' seems a more appropriate word.

It seems desirable that the interpretation should be separated as far as possible from the record of the data obtained from documents, observation, and interviews, and this separation is sometimes maintained. It has already been pointed out, however, that some degree of interpretation already enters into the formulation of the hypotheses on the basis of which even the earlier interviews must be conducted, if the worker is to have any sort of focus within her extensive field of observation. Any use of adjectives implies some interpretation. Although these may be reduced to a minimum in favour of descriptions of behaviour, they represent a shorthand method of conveying information which is sometimes essential in the type of record used, for practical purposes, when reporting to other members of a staff or committee. It is noteworthy, however, that during the last ten years social case records have shown a marked tendency to drop vague adjectives, and to replace them with accounts of behaviour. The adjective ' nervous ', for instance, which was formerly often employed, is now generally superseded by illustrative description.

In psychiatric social work a preliminary summary of the main facts and their interpretation is attempted at the stage when a scheme of treatment is first formulated. In clinics where there is a team of specialists, each studying one aspect of the problem, separate written or verbal analyses of this kind are usually produced, and a discussion is then held at which the records are assembled and a joint ' conference report ' of an interpretative kind is drafted. This is often typed on paper of a different colour, in order to facilitate reference to it at a later stage in the treatment, when further interpretations may be made (6).

The social worker's share in the process of interpretation may include the reformulation of the problem, which, after investigation, may appear in quite a different guise from that in which it was originally described. Thus a problem described as one of poverty may be found to centre upon chronic alcoholism. Frequently this shifting of the focus of interest is the first stage in interpretation. The final task, both of the social worker and of the other specialists, is to sort out from the mass of facts collected all those which seem to bear upon the problem, and to select that theory of interrelationship which seems to offer the most comprehensive explanation.

The scientific justification of this process lies chiefly in the cumulative practical experience of the clinic staff, together with the specialized knowledge available through the different members of the team. In child guidance work the type of knowledge which leads to deductions as to aetiology and prognosis is seldom related simply to the causes of specific symptoms. Where personality and social behaviour are concerned, apparently similar situations may produce quite different results. More useful from the standpoint of prediction and treatment is knowledge of the kinds of family situation which are apt to produce maladjustments, and of the nature of the responses characteristic of different types of personality. Interest is tending to shift from the content to the function of the symptoms of maladjustment.

Inferences are obviously easier to draw when there has been a definite medical diagnosis of mental or physical disease, in which the relationship between hereditary predisposition and individual experience may be known to have a specific significance. In such cases the data supplied by the social worker may be almost entirely descriptive, and their interpretation becomes a question for medical experts.

VIII. RESEARCH

In conclusion, the possibility of using the records compiled by social case workers for research purposes may be briefly considered. The results of a very large number of these studies of individuals, of families, and of the customs and general conditions prevailing

in the society in which we live, are filed in the offices of the various agencies. From time to time they are turned to for information on such subjects as the social causes and effects of mental deficiency; the changes brought about in family life by social insurance and workmen's compensation; the significance of illegitimacy and adoption for the development of children; the conditions in the homes of rheumatic patients; or the causes of crime. Extensive enquiries have been carried out in America by means of the analysis of case records, such as those kept by child guidance clinics.

It must be admitted, however, that up to the present time no very satisfactory method has been found for combining the type of record that is needed for research purposes with the type which is feasible or desirable in an organization devoted primarily to social service. Two obvious difficulties arise. The first is that the degree of consistency in the observation and reporting of facts which is essential if they are to provide a valid basis for generalizations can hardly be reached unless one worker undertakes the whole study, or a team is carefully instructed with a special piece of research in view. The second difficulty is that the cases are inevitably 'selected' by the mere fact of their reference to a social agency, and in such a way that the selective factors at work seem impossible to analyse. This difficulty might be partly met by a study of control groups, but such a study comes outside the scope of most social agencies as they are at present organized.

Nevertheless several solutions have been attempted. A research worker may first be given access to records of a given type, and then work out a scheme for the study of special problems, so that a group of case records can be subsequently drawn up with the requirements of this study in mind. The experience of the social workers or the clinic staff can also be made available for discussing the interpretations. Again, methods may be devised for consistently tabulating facts in a form convenient for finding correlations. All such schemes demand, however, additional staff and equipment, and can seldom form part of the ordinary work of a social agency. Yet there is no doubt that important data could be obtained from case records through the close co-operation of sociologists, psychologists, psychiatrists, and social workers (5, 8, 10).

Meanwhile the value of the ordinary 'service' records in suggesting significant problems for research can hardly be

over-estimated. Important hypotheses have frequently arisen in the course of work which is not directed towards discovery. It is perhaps mainly in this way that the records of social workers will prove to be of value in the study of society.

REFERENCES

(1) Abbott, E., *Social Welfare and Professional Education.* University of Chicago Press, 1931. pp. 177.
(2) Bristol, M. C., *Handbook on Social Case Recording*, 2nd ed. University of Chicago Press, 1937. pp. 219.
(3) Bruno, F. J., *The Theory of Social Work.* New York: Heath, 1936. pp. 646.
(4) Burt, C., " Psychology and social work," *Charity Organization Rev.*, 1918, xliii, 4–19, 51–60.
(5) Burt, C., *The Young Delinquent*, 2nd ed. University of London Press, 1931. pp. 643.
(6) Clark, M. A., *Recording and Reporting for Child Guidance Clinics.* New York: Commonwealth Fund, 1930. pp. 151.
(7) Dollard, J., *Criteria for the Life History.* New Haven: Yale University Press, 1935. pp. 288.
(8) Glueck, E. T., *Evaluative Research in Social Work.* New York: Columbia University Press, 1936. pp. 27.
(9) Hagerty, J. E., *The Training of Social Workers.* New York: McGraw-Hill, 1931. pp. 205.
(10) Hamilton, G., *Social Case Recording.* New York: Columbia University Press, 1936. pp. 184.
(11) Healy, W., and Bronner, A., *New Light on Delinquency and its Treatment.* New Haven: Yale University Press, 1936. pp. 226.
(12) Henriques, J. Q., *A Citizen's Guide to Social Service.* London: Allen and Unwin, 1938. pp. 399.
(13) *Interviews, Interviewers and Interviewing.* New York: Family Welfare Assoc. of America, 1931. pp. 132.
(14) Karpf, M., *The Scientific Basis of Social Work.* New York: Columbia University Press, 1931. pp. 424.
(15) Macadam, E., *The Equipment of the Social Worker.* London: Allen and Unwin, 1925. pp. 224.
(16) Macadam, E., *The New Philanthropy.* London: Allen and Unwin, 1934. pp. 320.
(17) Mallet, C. F., " Work and workers," *Time*, 1889 (March), New Ser., 3 (off-printed for the Charity Organization Society, London).
(18) Plant, J. S., *Personality and the Cultural Pattern.* New York: Commonwealth Fund, 1937. pp. 432.
(19) *The Prevention and Relief of Distress*, 36th ed. London: Charity Organization Soc. and King, 1938. pp. 269.

(20) Richmond, M. E., *Social Diagnosis.* New York: Russell Sage Foundation, 1917. pp. 511.
(21) Robinson, V. P., *A Changing Psychology in Social Case Work.* University of North Carolina, 1930. pp. 204.
(22) Robinson, V. P., *Supervision in Social Case Work.* University of North Carolina, 1936. pp. 199.
(23) Salomon, A., *Education for Social Work.* Zurich: Verlag für Recht und Gesellschaft, 1937. pp. 265.
(24) Shaw, C. R., *et al.*, *Delinquency Areas.* University of Chicago Press, 1929. pp. 214.
(25) Shaw, C. R., and Moore, M. E., *The Natural History of a Delinquent Career.* University of Chicago Press, 1931. pp. 280.
(26) Slater, G., *Poverty and the State.* London: Constable, 1930. pp. 480.
(27) " Social Work (Women)," *Ministry of Labour, Choice of Career Series,* No. 22. London: H.M. Stationery Office, 1937. pp. 22.
(28) Thomas, W. I., and Thomas, D. S., *The Child in America.* New York: Knopf, 1928. pp. 538.
(29) Thomas, W. I., and Znaniecki, F., *The Polish Peasant in Europe and America,* 2nd ed. New York: Knopf, 1927. 2 vols. pp. 2250.
(30) Young, P. V., *Interviewing in Social Work.* New York and London: McGraw-Hill, 1935. pp. 403.

SUGGESTIONS FOR GENERAL READING

Abbott (1), Dollard (7), Hagerty (9), Hamilton (10), Healy and Bronner (11), Plant (18), Richmond (20), Robinson (22), Salomon (23).

Klein, P., and Burrett, M. C., " Social work," *Ency. of the Soc. Sciences* (ed. E. R. A. Seligman), 1934, xiv, 165–187.
MacIver, R. M., *The Contribution of Sociology to Social Work.* New York: Columbia University Press, 1931. pp. 110.
Sand, R., *Le Service Social à Travers le Monde.* Paris: Armand Colin, 1931. pp. 256.

Chapter XVI

THE VALUE OF TEAM WORK AND FUNCTIONAL PENETRATION AS METHODS IN SOCIAL INVESTIGATION

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I. THE PROBLEM

A. INTRODUCTION

Even in the case of small and relatively isolated groups it is extremely difficult to analyse the whole web of institutional and personal relationships, in addition to the various psychological effects of physical factors like climate or food and the part they play in the life of the community. Anthropologists have therefore often found it useful and desirable to take into the field a number of different specialists.[1] When we come to a complex industrial society like our own, the difficulties are enormously increased. This fact has been frequently emphasized and we need not expand upon it here.

In his book, *The Local Social Survey in Great Britain* (20), Wells [2] points out that social surveys had until recently a relatively limited aim and scope. They were largely concerned with local problems and did not, except in one or two instances, attempt to solve theoretical problems, confining themselves to the collection and presentation of material that might be used as a starting point by students of social theory. As the surveys did not set out to test theoretical hypotheses, they could not be expected to penetrate very deep, or to produce evidence on which one could base generalizations

[1] Team work by the members of the Torres Straits Expedition, under Haddon, by expeditions led by Boas, and by other investigators is referred to in Chapter XII.

[2] See also Chapter XVIII.

capable of being used for prediction (as generalizations in physics can be used). Consequently, as Wells shows, there is now a tendency towards making general surveys with a "'fused' aim",[1] which means the intention to analyse particular social facts with reference to their whole historical and sociological setting. We may put this in another way by saying that social surveys are being transformed into social studies and experiments.

B. 'EXPERIMENT' IN SOCIAL SCIENCE

The essential method of physical experiment is to vary under control the material conditions of phenomena. In psychological experiment the aim is to control both the physical environment (stimulus situation) and the psychological environment (*milieu*). Since we cannot establish completely new physical and psychological environments, we must seek to control our objects of study in other ways. The most important of these are the control of *method* and the establishment of *significant situations*, which, in social psychology, constitute the analogue of experiment in the physical sciences. Both are discussed in this and other chapters, and all the procedures described are beginning to have their effects on the social sciences.

Nevertheless, in an important sense each method is capable of touching only partial aspects of the functional interrelatedness which is characteristic of communities. Any one set of characteristics of importance in social and industrial relationships may be very exactly analysed—for instance, attitudes of various kinds, special aptitudes, or maladjustment—without their actual use and function in the given society becoming much clearer. The problem facing the social psychologist or sociologist is similar to that facing the student of personality.[2] He singles out for special study factors like intelligence, incentives, abilities, appearance, and so on, but from the results of his investigations he may still be unable to say how these are integrated, on which one the accent lies at different times. On the other hand, in daily life we do respond fairly consistently to 'the personality' of an individual, without having any detailed knowledge of his constituent 'faculties'. New methods are therefore

[1] (20), p. 28.
[2] Cf. Chapter X.

being invented for dealing with the problem at this higher level of complexity,[1] and new methods are similarly needed to supplement those used for analysing partial aspects of complex societies.

In the present chapter, the method of 'functional penetration by a team' is put forward as one way of approaching the technical problems involved in analysing societies, especially of the large and complex industrial type. But before discussing this method, we may very briefly review other work in the field in which the method is now being applied—that of industrial unemployment.

II. STUDIES OF UNEMPLOYMENT [2]

Previous psychological studies of unemployed people have, on the whole, been concerned with special aspects of their life. Höpler (11), for example, studied the effect of unemployment on the incidence of crime. Busemann (4) and his school studied the effect of parental unemployment on children's efficiency and activities at school, finding, for instance, that the school marks of children whose parents become unemployed drop very considerably. It is not yet clear whether this drop is to be explained entirely by psychological factors, or whether malnutrition plays a part and, if so, how great a part.

American investigations have dealt with the efficiency, morale, and speed of adjustment of the unemployed (16, 10); with the part played by fear in the make-up of what may be loosely called the unemployed man's personality (3), and, in general, with the problems which the unemployed man has to face in his daily environment.

There have, on the other hand, been numerous studies which may be called 'journalistic' in the best sense: intimate and detailed descriptions of the unemployed family's budget, of the search for work, and of the prevailing atmosphere of depression, revolt, or despair. An excellent study of this kind was made in Greenwich by Bakke (2). *Men Without Work* (13) is a more recent work by a team of collaborators, having a wider range than Bakke's.

[1] See Allport (1).

[2] For a critical summary of the available literature on unemployment, see Eisenberg and Lazarsfeld (7).

Though the crucial problems of defining long unemployment and the various types of unemployment are not discussed, it presents an objective yet vivid and sympathetic picture of the personal and social effects of long unemployment in five representative English towns, and is an excellent example of a collective investigation by sociologists and economists.

In another recent study, Rundquist and Sletto (18) have applied Thurstone's methods of attitude scaling [1] in order to show the nature of the personality and adjustment characteristic of unemployed people from different occupations. The book presents an exhaustive analysis of the methods and statistical computations used for constructing the various parts of the questionnaire finally adopted. But, except in regard to points of method, the results of the enquiry are somewhat meagre. It was found, for instance, that unemployed men showed a much greater discontent with the existing economic order, had poorer morale (that is, suffered from discouragement and hopelessness, particularly if they had been unskilled or semi-skilled workers), and displayed poorer ' general adjustment ' ; their family attitudes, on the other hand, did not seem to have suffered.

The study of the psychological and sociological effects of unemployment was raised to a new level by the work of the Viennese Institute for Research in Industrial Psychology, under the direction of P. Lazarsfeld. A summary of the main conclusions and of some of the techniques employed by this group was published under the title, *Die Arbeitslosen von Marienthal* (12),[2] and it is regrettable that for financial reasons the accumulated material was not published in greater detail. The achievements of the Marienthal investigation consist chiefly in, first, the combination of older sociological survey methods with some of the methods, and the outlook, of social psychology, and, secondly, the introduction of a better and more reliable method for acquiring information.

This method has been called ' functional penetration ' by the Dundee investigators (17, 19), and it will be described more fully in Section IV. In order to understand its significance, however, we must note a lesson to be drawn from the surveys of the last hundred years, an account of which is given in Chapter XVIII. The lesson is that the statistical studies made of social phenomena such as

[1] Cf. Chapter IX, Section IV.

[2] For a brief description of this study, see Chapter I, Section II, A.

bad housing, malnutrition, poverty, and the like, remained relatively one-sided and lifeless. They were concerned essentially with the accumulation of numerical data about the present situation, and only secondarily with the growth of that situation or the integration of the sociological factors with their wider historical and psychological settings. Anyone reading *The New Survey of London Life and Labour*, or *The Social Survey of Merseyside*, for instance, inevitably reflects that it would be illuminating and important to have parallel studies of the social psychological features of these communities, or, to put it another way, of the behaviour related to the various statistically analysed conditions and of the laws that regulate the building up of new attitudes or the breaking down of old ones.

III. FUNCTIONAL INTERDEPENDENCE

Such considerations are guiding more recent studies of unemployment. Unemployment on a large scale is not something isolated. There are economic, technological and historical reasons for it. The unemployed do not, in virtue of their unemployment, suddenly become isolated from the community of which they had been a working part. If, then, we want to know what the significant aspects of unemployment are, we must at the same time study the whole social and sociological background of society. In other words, we must stress anew the principle of the functional interdependence of the various parts or aspects of society, a principle which has been current in sociology at least since the time of Comte, and which has recently been reformulated in anthropology.

If there is a high rate of psychological break-down, we must know in what way society fits its industrial workers for their work, and also for the necessity to be flexible and adaptive towards entirely new conditions. We must know something, therefore, about the manner in which the educational system has developed, how it functions, and especially to what extent it equips the growing child for his social environment in the widest sense, intellectually, emotionally, and technically.

Again, in order to ascertain the effect of unemployment on the structure of institutions, on the degree of participation of the unemployed in the institutions around them, and on the form and

cohesion of family life, we must know their characteristics under conditions of satisfactory employment. It is moreover essential to document the social norms and conventions of the society of which the unemployed remain a part, at least in the geographical and administrative sense. Where quantitative measures are not as yet feasible, we must attempt to make description as systematic and reliable as possible.

For dynamic studies of any social problem, that is, studies which do not merely analyse one static aspect of the whole, it is therefore necessary to combine the methods and outlook of all the sciences of man, and especially those of psychology, psychiatry, education, social anthropology, economics, sociology, and history.[1]

The whole question of the analysis of functionally interrelated aspects of our social environment is too difficult and technical to be adequately treated within the limits of this article and the scope of the volume as a whole. The reader should bear in mind, however, that a considered theoretical basis must underlie the efficient use of team work and functional penetration as pragmatic tools in social investigation, just as any piece of apparatus in the physical sciences has its theoretical justification. A preliminary sketch of such a theory has been given by the author (17), and further studies will be published soon. For the purpose of the present article it is sufficient to note that a number of different specialists working in consultation with one another do not constitute a 'team', in the sense in which the word is used here, unless they adhere to a common methodology, based on analytic concepts of functional interrelationships in society.

[1] Mosely (14) has described the work of large teams of experts who, under the direction of D. Gusti, make very comprehensive surveys of villages and village life in Rumania. Economists and geographers are first sent to map the geographical and economic facts and factors. They are later joined by historians, sociologists, ethnographers and anthropologists. Although each member of the team (which may contain as many as sixty persons) works along his special lines, he is first trained in general methods of observation and registration, and is expected to make and record observations outside his immediate field as well. All data are filed in folders under appropriate headings and become common property, available to every member and to later scholars; the acquisition of 'private hoards' is discouraged. In this way, Gusti's teams are said to achieve a far-reaching uniformity of outlook, which helps to break down the artificial, academic departmentalization of knowledge.

IV. TEAM WORK: METHOD AND TECHNIQUES[1]

A. METHOD

Carrying out team work in psychology raises a number of special difficulties. These will vary from team to team, but certain broad prerequisites of success can be formulated.

First, each of the members of the team must be an expert in some field. Secondly, the members must be able and willing to learn as much as possible of the interconnections between the various sciences and their different points of view. Certain temperamental types are less able to do this than others. Flexibility is required, but above all the capacity to take and make severe criticism in a constructive spirit. Board meetings approximate to research team meetings, but anyone who has attended a board meeting of some large industrial concern will have noticed how difficult it is for the various specialists, such as production managers and sales managers, to believe that certain proposals are meant for the good of the whole and are not directed against one or another department. Thirdly, each member of the team must work on the same group of problems as the others (although from his specialist point of view), and must also understand why he is doing so, in order to prevent him from developing his study too far along lines that have merely specialist relevance. A biochemist should not, for instance, take part in the work of a team merely because he wants to discover some facts about the balance of vitamins, nor a psychologist merely because he wants to standardize a test battery.[2]

[1] This section owes much to Trist (19), who has discussed and illustrated ' stranger value ' in functional penetration, the theory of the adoption of roles for disclosing attitudes, and the hypothesis of ' generalized acceptance ' as a consequence of role variation.

[2] It is obvious that a team can achieve co-ordinated results which have a unity not attainable by a collection of miscellaneous experts. But a far more important question of principle and methodology is involved. The factors determining social behaviour, the ' stimuli ', are quite different from those that are the concern of laboratory psychologists. They are exceedingly complex, and they are analysed, not by methods based on those of the physical sciences, but by historians, sociologists, economists. The presence of such specialists in a team is therefore essential, since they enable the social psychologist to know far more about his ' stimulus terms ' than psychological considerations alone can tell him.

B. TECHNIQUES OF FUNCTIONAL PENETRATION

In field practice, the chief advantage in carrying out a social psychological investigation by means of a team is that the method of functional penetration can then be widely applied, whereas without a team the usefulness of the method is limited.

'Functional penetration' means that the observers behave in various ways so as to obtain a place and a function in the society which they are studying. This procedure has three important consequences:

(i) The observer, by assuming a definite role (e.g. working in a factory), releases certain attitudes towards that role in members of the community he is studying.[1]

(ii) The experience he gains in this way enables him to know what questions to ask. This is of vital importance for the future of questionnaires. There is now sufficient evidence to show that unless questions are based upon direct experience closely similar to that of the person questioned, the answers are apt to be not only meagre, but often misleading.

(iii) The observer's first-hand experience of the functions of a particular role in a particular community are also a necessary psychological basis for the formulation of new problems and hypotheses.

1. '*Stranger Value*'

Some examples may make these points clearer. The anthropologist sometimes relies largely on his 'stranger value'. Since he is a stranger, who comes from afar and will disappear again, he can obtain statements about customs and ceremonies which might not be divulged to a man of the same culture. Many human beings tend to boast to strangers from some other culture about their own institutions and social values.[2]

There are, however, several obstacles in the way of a really complete penetration of a given society by means of stranger value alone. One is that the tendency to display may be accompanied

[1] The 'participant observer' is discussed in some detail by Hader and Lindeman (9). See also Chapter XVIII, Section II.

[2] Cf. Chapter XIII, Section IV. Often, however, being a stranger gives one no intrinsic advantage at all; cf. (8), p. 8.

by a tendency to exaggerate, or even to fabricate. Another is that most societies have institutions and values which it is explicitly taboo to divulge to strangers.[1]

In studying our own society, observers can also benefit by stranger value, but again there are limitations. In the Dundee investigation, for example, E. L. Trist found that American experience gave him access to the working classes, in whom the desire to emigrate was strong. It gave him no prestige, however, with the business and middle classes, who regarded their own culture as superior to that of the Americans. The fact that he had a Scottish mother, on the other hand, opened no doors to him amongst the workers, but was an asset in middle class circles.

If the observers composing a team come mostly from areas outside the one they are studying, they will thereby have at their disposal a certain degree of stranger value. Cultures, and even towns within the same culture, differ with regard to the degree of reticence displayed. In Dundee, for instance, merely being a stranger does not get one very far.

In one important respect functional penetration by means of a team can succeed in our own society, whereas the anthropologist studying a primitive culture has great difficulty. This is in the avoidance of a role which combines stranger value with authority.[2] In most primitive cultures the white man as such has authority. Even if he himself is regarded with pity or contempt, the prestige of his race is usually still behind him. We do not know how much the fact that the investigator is in a position of authority may distort evidence or make it inaccessible, but it appears likely to do so. In urban South Africa almost the only whites especially interested in the social activities and conditions of the natives are policemen and health officials, and the latter do very little questioning. Consequently a white anthropological field worker may be under a grave handicap from the beginning. He may find it difficult, if not impossible, to divest himself of his vicarious authority.

In our own society the difficulty can be overcome in two ways.

[1] This is particularly true in 'closed', as contrasted with 'open', societies.

[2] This point was raised by Dr. A. I. Richards in a group discussion, and in a letter to the author.

Single investigators may take various jobs in turn. Thus T. Harrisson reports [1] that in a Lancashire town he has worked as a lorry driver, a grocer's assistant, and in other roles, his accent being regarded as that of a neighbouring town or county. He does not, however, state how much residual antagonism exists on account of his being a stranger.

If there is a team, it can be made to mirror the hierarchical structure of society (see Section IV, 4), the 'lowest' investigator being identified with the 'working class'. His superior education may still give him prestige and thus authority, but if he handles the situation well, his authority will be that of a superior member of the class within which he is working.

2. '*Role Assumption*' [2]

An individual in our society always has a considerable number of functions. He may be simultaneously a jute worker, a trade union official, a householder, a voter, a subscriber to a newspaper, a freemason, and a member of a church. A wide variety of experiences result from the complex nature of the social organization. Through illness he may come into contact with the health services; through his children, with the regulations governing the educational services; through his interest in sport, with the running of a football team, or the laws concerning gambling.

We cannot elicit people's attitudes towards the various aspects of their lives and of these social institutions unless our questions display a thorough grasp of the material involved, and in the case of industrial workers, who are not very articulate, such a grasp can only be obtained through the observer's own experience. This is particularly important when we attempt to study not merely conventional (public) attitudes, but central (private) attitudes as well. The subject's full co-operation is necessary, and to ensure it long acquaintance or special methods, such as those used by the clinical psychologist, may be required.[3] The observer, therefore,

[1] Personal communication.

[2] For a fuller analysis and definition of roles and role adoption, see L. W. Doob, "Poor whites: a frustrated class" ((6), App. I), especially the section on Methodology, pp. 447 ff.

[3] The question of public and private attitudes is discussed by G. W. Allport in (15), Chap. 17; see especially pp. 824–7.

in order to gain a knowledge of the different aspects of community life which is sufficiently penetrating to enable him to make scientific observations, must take part in many kinds of activities, not only as an observer, but as a participant. Since one observer cannot participate in more than a few activities, a team is essential.

3. '*Generalized Acceptance*'

It is not necessary, however, for observers to assume all the roles in which the inhabitants of an area themselves appear. In practice, it is found that the assumption of one role, for example, that of a social worker, will do more than give the observer access to a certain group of people and their attitudes towards this particular type of work. For if he lives in the area he is also involved in questions of transport, housing, medical services, and so on, each of these experiences bringing him experiences which are common to all or most of the members of the community. After a certain number of roles have been assumed and the observer becomes known to the community, he reaches the stage of 'generalized acceptance'; that is, as one barrier to communication after another has been broken down, there is a stage at which no further role assumptions are needed. The observer can then penetrate to central personal attitudes in almost any field. The exact number of roles needed for generalized acceptance depends upon the conditions in each group. This working hypothesis was first formulated by Trist (19).

4. *Role Assumption by the Team as a Unit*

In Chapter XIII, on "The Interview Technique in Social Anthropology", S. F. Nadel writes [1]: "The acquisition of a definite place and social role within a community may involve the loss of the advantages of a detached observer. In stratified or rigidly subdivided societies a social place can be assumed in one stratum or section only, and estrangement from the people belonging to other strata or sections, and even their enmity, may result." Nadel is referring to 'native' communities, but his remarks doubtless apply to our own society as well, unless the observer is

[1] Section IV.

working in a city so large that his activities in different strata are not generally known.[1]

If a team is available, however, the difficulty may be met by organizing the team itself so as to mirror the hierarchical structure of the society which is to be penetrated. This has several advantages. One of these derives from the position of the team's executive and administrative head. If he adopts the correct attitude (and style of dress) he can enter into relations with the heads of government departments and other officials, who are key informants of a special type. As a 'head' he can also frequently smooth over any difficulties which may be created by too active 'field work' on the part of his 'subordinates'.

The other members of the team may similarly fall into familiar categories, being described, for example, as 'chief assistant', 'assistant', 'clerk', and 'typist'. As such they can then make contact with persons in the community who belong to similar categories: foremen, manual workers, or clerical workers. They can talk about their 'boss' or 'assistant', and a number of social strata can be penetrated at once. This is a means, too, of circumventing a difficulty experienced by the social worker because she "belongs to a stratum of society radically different from that of her client," a fact which "unquestionably affects their relationship".[2] Some residual effects there may be, but if the 'client' clearly realizes that the investigator, although engaged in a different occupation, is in the same sort of 'class' as himself, the barrier is usually eliminated.

A minor advantage in organizing a team as a hierarchical unit is that the 'boss' can stop some role by giving an order, when a different task has to be undertaken. In the Marienthal investigation, observers found that once having begun the teaching of laundry work, for instance, they had to continue with it for some time.

We may express the resultant social situation by saying that 'the team' after some time comes to be regarded as a unit, an institution, and as such can enter into relations with other institutions

[1] In order to meet another danger, that of partiality, due to role assumption, on the part of the observer, various devices may be adopted, such as checking by means of interviews and more objective methods of documentation.

[2] Chapter XV, Section V.

such as public services, Chambers of Commerce, trade unions, and so on. Thus the research team is as much subject to the process of 'reification' as any other institution.[1] Reification has some potential dangers, but the fact that as 'an institution' the team may arouse either the co-operation or the antagonism of other institutions brings the attendant advantage that the dynamics of institutional interaction in our culture can then be experienced at first hand, as well as by observation and historical testimony.

5. *The Indirect Questionnaire*

The main techniques of documentation, statistical analysis, and interview are described elsewhere in this book. The problems of organization and material which must be solved in the case of any team of investigators cannot be treated here. The use of functional penetration will, however, be pointed out in connection with one technique: the indirect questionnaire.

A great deal of work has been done by means of questionnaires, the advantages and limitations of which are fully discussed in Chapter IX. One of the main limitations of the questionnaire as a method is that it is to a large extent public and impersonal in character. G. W. Allport writes: "Ordinarily it is the public attitudes which are most readily and willingly disclosed. Any itinerant psychologist can elicit them by ringing doorbells and asking questions. Usually the private attitudes are discovered only through indirection, after a long period of acquaintanceship, or when the subject wholeheartedly and candidly co-operates."[2] Doob writes similarly: "A questionnaire was answered by fifteen men and women (negroes) as they picked cotton. . . . This methodological tool proved to be almost totally useless in securing intimate data. No set of questions could be formulated which were intelligible to all who were interviewed, and there was no guarantee that each

[1] A concept may be said to be 'reified' when a word which means that certain things are interrelated is thought in addition to name something which has the same kind and degree of reality as the interrelated things themselves. In the present instance the term is applied to that process whereby groups (e.g. 'the school', 'the church') come to be thought of as having properties characteristic of *individuals*. This psychological process is of fundamental importance in social psychology, since it concerns the institutional behaviour of individuals. See (17), p. 346.

[2] (15), p. 924.

one would assign the same functional significance to the situation of the investigator-with-a-pad-and-pencil. Information elicited by a questionnaire has little value until the role of the questions themselves in the lives of the people who are answering them has been ascertained—and it cannot be ascertained merely by asking the questions. Social scientists who have such a fondness for attitude-inventories and the like must recognize this inherent, insuperable defect in their methodology." [1]

These quotations vividly describe some of the difficulties which are characteristic of social psychological research and which very few of the investigators who have constructed questionnaires have attempted to meet. Elaborate techniques have been worked out for determining the consistency of a questionnaire by, for instance, retesting after an interval, or comparing its two halves. Such techniques, however, cannot tell us whether the answers are about the subject's public or private attitudes. The mere fact that a large number of subjects are ostensibly willing—even eager—to answer a Personality Adjustment Blank, like that of Bernreuter or Bell, is also no criterion of the adequacy of the answers.

Another difficulty which has frequently been demonstrated in the field of intelligence tests is mentioned in the above quotation from Doob. The questions must be framed with reference to the experience and the vocabulary of the subject, that is, they must be consistent with the cultural norms of behaviour, of vocabulary, and of values of the group or community to which the subject belongs.[2] This is especially important in the case of printed questionnaires demanding written answers. We cannot be certain that the subject's vocabulary is adequate both for understanding the questions and for answering them except by speaking with him personally, elucidating the questions, on the one hand, and getting him to express himself in alternative ways, on the other.[3]

The difficulties referred to are not insuperable, however, if we systematically apply the 'indirect method'. This resembles the method of clinical psychology in that it uses a personal approach,

[1] (6), p. 451.
[2] Cf. Chapter VIII.
[3] For further discussion of the differences between written and spoken information see Chapters III and IX.

and relies to a large extent on the interpretation of indirect clues to the significance of behaviour, including verbal behaviour.

The method of the indirect questionnaire requires, first, thorough knowledge of the social field. This is gained through functional penetration, the investigator at the same time necessarily discovering certain basic attitudes in the community. A questionnaire is then constructed and presented to a sample of the subjects.[1] The subjects are not aware that they are answering a questionnaire, and consequently there cannot be a time limit, or a rigid order in which the questions are put; the order and number of the questions answered must, indeed, depend on the course of the conversation, to a much greater degree than in a set interview.

The concept of the 'significant situation' is thus used both in the preliminary work of constructing the questionnaire and in applying it. The 'significant situation' in social psychology is the analogue of experiment in laboratory psychology. If we wish to study the motivating forces in a society, we must first determine, by observation and experience (functional penetration), which situations are 'significant' in that they evoke the deeper personal attitudes. Secondly, when the questionnaire is applied, each question must be set in a framework of meaning so that its relation to the subject's personality is precisely determined.[2]

In these ways, using small teams and the more clinical methods of obtaining information, it should be possible to display the functional interrelatedness of patterns of social behaviour more adequately than by the older method of studying their different aspects in isolation.

REFERENCES

(1) Allport, G. W., *Personality: A Psychological Interpretation*. New York: Holt, 1937. pp. 588.
(2) Bakke, E. W., *The Unemployed Man*. London: Nisbet, 1933. pp. 308.
(3) Beckmann, R. D., "Mental perils of unemployment," *Occupations*, 1933, xii, 28–35.

[1] What constitutes an adequate sample is also more than a mere question of sociological statistics. Not until the various social types have been determined can we decide what samples will be adequate.

[2] The formulation of the questions is obviously of the greatest importance. Since its discussion would transcend the limits of this chapter, however, the reader is refered to works in which questionnaires are dealt with at greater length, such as (1) and (15).

(4) Busemann, A., *Paedagogische Milieukunde*. Halle : Schroeder, 1932. pp. 359.
(5) Clague, E., Couper, W. G., and Bakke, E. W., *After the Shutdown*. New Haven : Yale University Press, 1934. pp. 153.
(6) Dollard, J., *Caste and Class in a Southern Town*. New Haven : Yale University Press, 1937. pp. 502.
(7) Eisenberg, P., and Lazarsfeld, P. F., " The psychological effects of unemployment," *Psychol. Bull.*, 1938, xxxv, 6, 358–390.
(8) Firth, R., *We, the Tikopia*. London : Allen and Unwin, 1937. pp. 605.
(9) Hader, J. J., and Lindeman, E. C., *Dynamic Social Research*. London : Kegan Paul, 1933. pp. 231.
(10) Hall, O. M., " Attitudes and unemployment : a comparison of the opinions and attitudes of employed and unemployed men," *Arch. of Psychol.*, 1934, xxv, No. 165. pp. 65.
(11) Höpler, E., " Wirtschaftskrisen und Kriminalität," *Arch. f. Krimin.*, 1930, lxxxvii, 1, No. 87, 15–27.
(12) Lazarsfeld-Jahoda, M., and Zeisl, H., *Die Arbeitslosen von Marienthal*. Leipzig : Hirzel, 1933. pp. 123.
(13) *Men Without Work : A Report Made to the Pilgrim Trust*. Cambridge University Press, 1938. pp. 447.
(14) Mosely, P. E., " The sociological school of Dimitrie Gusti," *Sociol. Rev.*, 1936, xxviii, 2, 149–165.
(15) Murchison, C. (ed.), *A Handbook of Social Psychology*. Worcester, Mass. : Clark University Press, 1935. pp. 1195.
(16) Murphy, G., Murphy, L. B., and Newcomb, T. M., *Experimental Social Psychology*. New York : Harper, 1937. pp. 1121.
(17) Oeser, O. A., " Methods and assumptions of field work in social psychology," *Brit. J. Psychol.*, 1937, xxvii, 4, 343–363.
(18) Rundquist, E. A., and Sletto, R. F., *Personality in the Depression*. Minneapolis : University of Minnesota Press, 1936. pp. 398.
(19) Trist, E. L., " Co-ordinated social researches in a Scottish area : V. The Functional Penetration of a social field," *Brit. Ass. Adv. Sci.*, Blackpool Meeting, 1936 (Section J).
(20) Wells, A. F., *The Local Social Survey in Great Britain*. London : Allen and Unwin, 1935. pp. 108.

Chapter XVII

THE STUDY OF SOCIAL GROUPS IN INDUSTRY

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The grouping of individuals in industry offers a unique field for the study of social psychology, and yet this aspect of industrial psychology has been largely neglected. A possible reason for neglect may be the fear that such a study might be politically suspect and so engender an attitude which would be detrimental to its pursuit. This may be true of the employers' and employees' organizations, which exist mainly to protect what are regarded as opposed interests, but it is not true of industrial groups within the factory to the same extent. A start has already been made in the study of these, and the following brief description illustrates the methods used.

In the Chicago plant of the Western Electric Company five girls employed in fine manipulation were isolated from the rest of the department for five years. During this period they were closely observed and their output was accurately recorded. Whitehead (6, 7, 8), who conducted this experiment, found that variations in output were mainly dependent on the social interactions of the members of the group; changes in atmospheric conditions and hours of work, on the other hand, were found to affect output to a negligible degree.

By changing the positions of the girls different social groupings were formed, which resulted in changes of output. The data collected concerned quantity of output, automatically recorded to a fraction of a second; quality of output; length of time spent in bed by each girl every night; room temperature; relative humidity and external weather conditions, and so forth. In addition the supervisors made extensive daily notes on conversations and on the relations developing between the workers. The workers

were also separately interviewed in private. All this information was collected with the workers' consent.

During the experiment the variations in output of each worker were correlated with those of every other worker. It was found that where two or more workers were socially integrated with one another in friendship, rivalry, or proximity, their variations in output were highly correlated. This does not mean that the amount of their actual output approximated to equality, but that variations in the curve of effort were closely related. When the special social relationship between any two members ceased, the variations in output again became relatively independent of one another. These results indicate that the variations in muscular effort which are so generally involved in output are in part, at least, dependent on social relationships unconnected with the work itself.

Wyatt (10) carried out similar experiments with a group of repetition workers. He found that certain workers tended to dominate a group and so affected the output of the other workers. The closer any worker was to the dominant member of the group the greater was the effect of the dominant worker on her output. Wyatt's method consisted in carefully watching the workers and talking to them so as to obtain an idea of their character, and then moving them to different positions in the group. He concerned himself with gross output and not with variations in output, and it was found that the gross output of workers was affected by social relations and also by proximity.

When individuals were isolated their output was increased, although they became more conscious of the discomfort of their surroundings. If the members of a working pair were separated, one working in isolation and one with the remainder of the group, the output of both members of the pair increased. The workers were paid according to the output of the whole group and not according to individual efficiency. In spite of this, individual efficiency increased when the members were isolated, and decreased when they worked as a group.

In another investigation (1, 2), several thousand workers were interviewed in the Chicago plant of the Western Electric Company and invited to express their views freely. These men were also paid on a group basis, so that increase in output by individuals affected all members of the group equally. In spite of this, it was

reported that great resentment was felt if any member of a group produced a greater output than that typical of the group. There is evidence from both these sources, therefore, that even when individual deviations from the group norm benefit the group they are not tolerated. Each individual in the group is expected to conform to the group standard. Such a tendency towards conformity may be conscious or unconscious, but it is probably present in all groups.

Wyatt found that by placing a quick worker near a slow one the output of the latter was increased and that of the former decreased. Thus they both changed their rate towards each other's level so that they could meet on common ground. This is an indication of the way in which social grouping takes place at the work-bench, each individual moving towards the level of his companions.

In the Chicago experiment (1, 2) it was found that while each group organized itself in a somewhat different way, the basis of all such organization was the protection of the group. There was always a group leader, but sometimes two men led, one protecting the group from external influence and one maintaining the efficiency of the group and so making interference less likely. Such an organization of the group involved no dissension. Sometimes, however, two members of the group would compete for leadership in the same sphere. This caused dissension, which was usually best overcome by removing one of the competitors to another group, where his position would be more clearly defined.

The same experiment showed that there was a cleavage between the technical organization of the works and the social organization of the workers, and the conclusion is drawn that if technical progress is to be made without undue friction, more attention must be paid to the latter. From the point of view of the technical organization the worker is an economic unit, but socially he regards himself as much more than that. Technical changes can be made rapidly, but social changes take time if they are to be made smoothly, our social life being based on deeply rooted sentiments.

Whitehead develops this thesis in writing on leadership (6, 7), stating that one of the causes of industrial unrest is the failure of the present system to recognize the fundamental importance of the spontaneous social organization of the workers. He thinks that the

worker's social life should centre more around the factory than it does at present. It is possible that in America, where there is a shifting industrial population forming few social contacts outside the factory, the factory should become the centre of the worker's life. In this country, which has a relatively stable industrial population with well developed social organizations unconnected with industry, the need to centre social life around the factory may not be so great. In either country, however, it is necessary to organize industry in such a way as to cause the minimum of disturbance to the social lives of the industrial workers. It is the function of the social psychologist in industry to discover what these organizations are and what is their relative importance, with a view to organizing industry in such a way as to work in harmony with them.

Another method of studying the industrial group was adopted by Smith and Leiper (3), who compared the sickness records of various industrial groups. They found that the shop assistant had a higher sickness rate than other types of worker under the same general conditions. It is thought that this may be due to the fact that the shop assistant is constantly in contact with customers, who may treat him with less consideration than he considers reasonable and so cause him mental strain. The highest sickness rates proved to be in those organizations which were so highly specialized that alternative employment was difficult to find. The sickness rates were lowest where there was stability of employment and no great rigidity of organization.

This method of investigating a group's reaction to environment is interesting, since the reaction takes place at an unconscious level. A high sickness rate may be a means of escape from conditions not easily avoided by other means. H. M. Vernon, taking voluntary absenteeism as a measure of a group's reactions to working conditions, found that it was high when atmospheric and other environmental conditions were bad (4, 5).

The Human Factor recently published a series of articles under the general title of "The worker's point of view", and many of these have been collected and published in book form (9). A perusal of this book can leave little doubt in the reader's mind of the importance, from the worker's point of view, of the psychological aspect of the situations which bring his group into contact or conflict with other groups. While the book does not report

conclusions arrived at by scientific methods, it suggests many problems in the relationship between industrial groups which the social psychologist could study, and by so doing arrive at more definite conclusions.

There are countless opportunities for those employed in industry as managers, welfare workers, or doctors to observe the social behaviour of industrial groups. The field of social psychology in industry is wide, and includes the modifications of individual behaviour as the result of group contacts, the reactions of whole groups to social conditions, the relations between groups, and the changes in a group's outlook which may follow a change of leader. These and numerous other aspects of social psychology can be studied by careful observation, which can often be checked by objective criteria such as output, sickness and accident rates, absenteeism, or labour turn-over.

If observations were made by those in close contact with the workers and reported to some centre where they could be analysed and compared, a body of valuable knowledge about the social reactions of industrial workers would gradually grow up. It might ultimately lead to changes in industrial organization, based on real knowledge, which would mitigate some of the conditions which at present result in an undue strain on the worker. It might also pave the way to a better understanding of the factors determining the interactions of the trade organizations designed to protect special interests.

REFERENCES

(1) Henderson, L. J., and Mayo, E., " The effects of social environment," *J. of Industr. Hyg. Toxicology*, 1936, xviii, No. 7, 401–416.

(2) Roethlisberger, F. J., and Dieburn, W. J., " Management and the worker," *Publications of the Harvard Graduate School of Business Administration*, 1934, xxi, No. 8. pp. 17.

(3) Smith, M. A., and Leiper, M. A., " Sickness absence and labour wastage," *Rep. Industr. Hlth. Res. Bd.*, No. 75. London: H.M. Stationery Office, 1936. pp. 62.

(4) Vernon, H. M., and Bedford, J., " A study of absenteeism in a group of ten collieries," *Rep. Industr. Hlth. Res. Bd.*, No. 51. London: H.M. Stationery Office, 1928. pp. 62.

(5) Vernon, H. M., and Bedford, J., " Two studies of absenteeism in coal mines," *Rep. Industr. Hlth. Res. Bd.*, No. 62. London: H.M. Stationery Office, 1929. pp. 52.

(6) Whitehead, J. N., *The Industrial Worker*. London: Oxford University Press, 1938. i, pp. 265, ii, diagrams.

(7) Whitehead, J. N., *Leadership in a Free Society*. London: Oxford University Press, 1936. pp. 266.
(8) Whitehead, J. N., "Social relationship in a factory," *Human Factor*, 1935, ix, 1–15.
(9) *The Worker's Point of View*. London: Hogarth Press, 1933. pp. 160.
(10) Wyatt, S., "Incentives in repetitive work," *Rep. Industr. Hlth. Res. Bd.*, No. 69. London: H.M. Stationery Office, 1934. pp. 57.

CHAPTER XVIII

SOCIAL SURVEYS

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I

The social survey may be generally defined as a study of the social institutions and activities of a group of persons living in a particular locality. The term is, indeed, occasionally given to studies in which no reference is made to any special locality; but it is convenient, if arbitrary, to restrict it to the former class. Within this class there is work which attempts to cover all the significant aspects of the community, or of some section of that community, which is the object of attention, and also work which deals with only one aspect, or a few. For the purpose of this paper the methods of the one kind sufficiently resemble those of the other for them to be treated together.

There is still a considerable lack of uniformity, however, in the methods of the social survey, even when the localities examined are broadly similar. It will therefore be best to speak of various types of survey before engaging in a more general discussion of methods.[1]

As the survey has taken several forms, so it has sprung from several roots. First may be mentioned the statistical work of Gregory King (9), Petty, Eden (6), and others, later followed by such quantitative studies of local social conditions as those of the Commission on the Health of Towns and other bodies, published in the journals of the Royal Statistical Society and the Manchester Statistical Society. Secondly there is the quasi-journalistic work of writers like Henry Mayhew (13) in England and Lincoln Steffens and Jacob Riis in America. For the present purpose, the importance of these writers would seem to be that their vivid presentation of

[1] The subject of English social surveys has been dealt with by the author at greater length elsewhere (18). For references see also (5).

certain problems attracted sufficient general attention to cause later, more systematic studies to be made. A third source of the survey was the sociological work of Frederic Le Play (11), which alone merits further consideration here.

II

Le Play deemed it the aim of social science to study contemporary societies in order to find in them those conditions which favour, and those which impair, social prosperity and stability. But while the study of whole societies would be a most elaborate and difficult task, it was reasonable, Le Play considered, to see in the family a kind of microcosm of the society as a whole, and therefore to assume that the careful investigation of a single family would shed a great deal of light upon the society of which that family was a part. While the society was the real object of inquiry, the family was the necessary intermediary.

Accordingly, Le Play and his assistants set out to make detailed studies of working-class families. As participant observers, they would reside with the family studied, join in its life and observe carefully the nature of its activities, vocational, religious, educational, and the rest, and the factors which determined their special forms. The results of such an inquiry were then set out in a ' monograph ' of standard type, comprising three main divisions. The first, the *titre principal*, gave particulars of the occupation of the head of the family. The third, called the *éléments divers*, was a kind of appendix, with data on the geographical features and economic organization of the district, and an account of the general conditions of the society in which the family lived.

The characteristic feature of the monograph was, however, the second part, which consisted of a representative budget of the family. Attention was paid not only to the gross amounts of income and expenditure and the balance, but to the sources of income and objects of expenditure, and to their proportions to the whole. This device was used as a means of ascertaining with precision the relative importance which the family attached to various activities, and therefore of determining, in Le Play's view, the ' moral condition ' of the family. " All the actions," he explains, " which make up the existence of a family, in terms of money, are exactly

equal to the combined value of expenses and savings. Thus an observer possesses a complete knowledge of a family when, having analysed all the elements comprised in the two parts of the domestic budget, he arrives at an exact correspondence between the two totals." [1]

Le Play's method, then, consists of a concrete study of the working-class family, which is assumed to be a sort of focus of the society in which it is found. From the study of the family we proceed necessarily to that of the society, for the monographs show, in the opinion of Le Play's school, that there are close connections between the worker's family and the other institutions of the same locality. It is impossible to describe the family, therefore, without also describing its interactions with other institutions; and further, in passing from one place to another, we find any change in the specific traits of the family accompanied by a similar change in those of the other institutions.

Le Play's monographic method was varied by his follower, De Tourville.[2] He used the material of Le Play's monographs, and retained the headings of his budgets, but added other headings, which in effect represented a classification of the *éléments divers* in the monographs. The result was a scheme, comprising twenty-five categories, which was to be employed to classify all the data concerning the society; in other words, a scheme of social institutions.

Thus, in the hands of De Tourville, social science becomes a survey of particular societies, with the family still regarded as the most important constituent, though less important than Le Play deemed it. The studies still concerned themselves with single typical families, but these were regarded as samples which revealed in a concrete form the organization of the society, and attention was directed to the characteristics and natural resources of the environment, which, through its influence upon the means of subsistence, affected the society's economic organization and the other institutions of the *nomenclature sociale*.

Le Play's method of social science [3] therefore developed into a method of surveying particular societies so as to analyse the special

[1] (11), i, p. 225. [2] See Champault (4).
[3] For a discussion of social surveys from a standpoint close to Le Play's, see (3).

forms of their institutions and the relations between them. The development proceeded in two main directions. On the one hand were studies concerned primarily with the standard of life of one section of society; on the other, broader studies of the society as a whole.

III

Into the former class falls the work of Charles Booth and his successors in England. Such surveys have not been concerned with the whole of the society in a given area, but only with the poorer section of it: that part which the makers of the surveys, or those who inspired them, felt to require the assistance of the rest of the community.

Booth's work (1) was the result of a widely expressed need for a more precise computation of the number of members of the London population who were living in poverty, and of the severity of their poverty, as well as for a more systematic inquiry into the causes of that poverty than had been attempted up to then. The chief aim of Booth's investigation was thus to answer the questions: how many poor are there in London, and how poor are they? His method was to obtain information from the School Attendance Officers concerning the incomes of parents of all children of school age, and, assuming that these families were sufficiently representative of all families in London, to classify the population into eight classes, distinguished by the letters A to H, mainly according to the level and regularity of earnings. Class A comprised the "lowest class of occasional labourers, loafers, and semi-criminals", B contained those with casual earnings, whom Booth called the "very poor", C those with intermittent earnings, and D those with small regular earnings. C and D together made up the "poor". Class E included those with regular standard earnings, F higher class labour, and G and H the lower and upper middle classes.

These divisions, Booth admitted, were somewhat arbitrary. "By the word poor," he says, "I mean to describe those who have a sufficiently regular though bare income, such as 18*s.* to 21*s.* per week for a moderate family, and by very poor those who from any cause fall much below this standard. The poor are those whose means may be sufficient, but are barely sufficient, for decent

independent life ; the very poor those whose means are insufficient for this according to the usual standard of life in this country ".

Subsequently the method of Booth was modified by B. S. Rowntree, in order to obtain a more accurate estimate of the number of persons living in poverty. Rowntree, in his social survey of York (14), endeavoured to construct a standard of minimum family needs in respect of food, clothing, fuel, and rent, such that the inability of any family to attain this standard would mean that the family's health was deteriorating. For nutritional needs he relied upon the researches of Atwater and others, and constructed a scale of the minimal caloric and protein requirements of an adult man and an adult woman and of children of various ages. He next ascertained the cost of the smallest amount of the cheapest food containing the required amounts of calories and protein. The cost of this, as well as of rent and of household necessaries, was ascertained by means of inquiries into actual working-class expenditure in York at that time.

From the results of these inquiries it was considered possible to calculate the minimal weekly requirements of a family of any known composition, and this figure formed the expenditure side of a skeleton hypothetical budget. The income side was formed by the average weekly earnings of the family, and the proportion of those unable to satisfy such requirements could thus easily be found. This standard Rowntree called that of " primary poverty " ; he also constructed others, which envisaged the satisfaction of wants additional to physiological necessities.

Rowntree's " primary poverty " standard has been used as a datum-line by Bowley (2) and others in order to compare the incidence of poverty at different times and places.

Rowntree's scheme, however, required more data than could be supplied by such sources as Booth mainly used, and Rowntree was therefore obliged to seek his information directly from the working-class households themselves. By this means sufficient data respecting family composition, earnings, and expenses, housing conditions, and so on, could be gathered to make possible detailed correlations. On the other hand such a method, if applied to areas of considerable size, would prove extremely laborious, and accordingly it has been the practice of Bowley and others to make use of a method of random sampling (see Chapter VI).

In addition to studying the amount of poverty, Booth paid attention to other phases of the life of the poor, and described in detail the occupations of the workers, and the religious, social, and other activities in which they engaged. These descriptions were compiled partly from printed sources, partly from information supplied, and partly from the investigators' experience through participation. The result was a very comprehensive account of the social condition of the working class at the close of the nineteenth century.

IV

Such comprehensive accounts have, owing to the cost of undertaking them, been rare. *The New Survey of London Life and Labour* (16), however, which aims at a comparison of the contemporary state of the workers with that prevailing in Booth's time, follows much the same lines, and *The Social Survey of Merseyside* (8) is a work of comparable scope. It may be useful to review some of the methods used in the former.

The nine volumes of *The New Survey* are divided as follows: volume i, an introduction, compares the broad phases of London working-class life to-day with those of Booth's time; volumes iii, iv, vi, and vii correspond to Booth's study of poverty; volumes ii, v, and viii correspond to his account of London industries, and volume ix corresponds to Booth's account of the residual phases of working-class life.

The poverty study takes advantage of the methods both of Booth and of Bowley. It employs the reports of the School Attendance Officers in order to classify the population into socio-economic grades and also to ascertain the incidence of the grades, street by street, maps being then constructed to show the distribution of the grades throughout the area. Secondly a study of separate households, chosen by the random sample method, is undertaken to obtain simultaneous information on family composition, income, overcrowding, rents, and so on, in order to establish correlations between these factors. The data supplied by the School Attendance Officers do not cover so many phases as do those obtained by the 'Street Survey', while the latter, having been collected from a random sample only, provide little information about the incidence of poverty and similar conditions in each locality.

Little need be said about the industrial section, which describes wages and other conditions of employment in the more important London industries, or about the last volume, which gives accounts of institutions catering for leisure, of mental deficiency, of crime, and so forth. These studies are made by the usual means: the use of printed material and of information from experts, and special investigations or participation by the survey staff.

The main purpose of the work is thus to measure the population by a poverty standard, of necessity arbitrarily chosen, and to compare with these findings others, upon such conditions as overcrowding, which may be expected to be closely related to them. In the techniques employed to obtain such data there is probably little to criticize. The charges which might be made against the study are more general ones.

They are, first, that the surveys do not deal with the whole society in the area studied, but only with a section of it. In particular no detailed inquiry respecting the middle classes is attempted. It is true that such an inquiry would have greatly increased the cost of the undertaking, but the increase would probably have been less than the cost of a separate survey of the middle classes. Apart from this consideration, it is evident that not only a survey of London society as a whole, but even one of the London working class, is incomplete without a study of the middle class. The boundaries of the two classes are ill-defined, to-day even more so than in Booth's time, and it is likely that light would have been thrown upon many aspects of working-class life by a simultaneous examination of middle-class institutions.

Another criticism is that these surveys omit a detailed study of several institutions of the utmost importance. For instance, there is no adequate treatment of political parties and movements, of reading habits, or of the influence of the Press and other forms of propaganda. The importance of such matters is vital; it is common knowledge that an adequate study of them is urgently required, and here again it is likely that the extra cost of such an increase of scope would have been less than that of a separate survey of comparable size.

This kind of survey, then, is briefly one of the working class, mainly concerned with its standard of life, and only dealing cursorily with its social attitudes and behaviour and with the relation to it of other classes.

V

In contrast to such an approach, there are studies which seek to encompass all the significant activities of the community, this difference involving the use of dissimilar techniques. We may take as an example R. S. and H. M. Lynd's *Middletown* (12). The community was chosen as a typical small American town, and their purpose was to study as comprehensively as possible the activities of the population. They were thus concerned not only with entities which can be represented in some numerical form, but largely also with beliefs and attitudes which cannot be so represented, and for the appraisal of which a wide experience of the community is necessary.

The investigators sought to get the general "feel" of the community by living in it for an initial period, observing as detachedly as possible its main characteristics. This enabled them to assess the relevance and importance of the material collected.

The next step was to set up a more specific scheme of study. It had previously been decided that attention should centre on six main activities of the community: getting a living, building a home, training the young, leisure activities, religious practices, community activities. Furthermore, the preliminary observations had shown that the population fell broadly into two groups, the working class and the business class, and that the condition of the community in 1890 offered significant differences from that prevailing at the date of the study. Accordingly, in order to introduce further clarity into the presentation of the material, it was decided to concentrate upon the contrasts between the two social groups and between the periods 1890 and 1924.

The techniques employed for collecting data included the examination of documentary material, such as census records, court files, year books, and newspapers, for the discovery not only of facts, but, in the case of the newspapers, of typical opinions as well. Statistics were also compiled when not already existent in the required form.

Two other techniques largely used were interviews and questionnaires. Informal interviews were common throughout the work, but at an advanced stage of the inquiry, certain hypotheses which had been formed were tested by planned interviews with selected

working-class and business-class families. Similarly, "True-False" questionnaires were issued to selected groups in order to obtain certain specific data. With regard to the reliability of these two methods, the authors claim that they furnish, not proof, but significant indices to behaviour.

The last important technique was that of participation in group activities. At all stages the investigators mingled with members of the community, living in private households, attending church services, making friendships and forming social ties, being thereby brought into continuous contact with the various shades of public opinion, and also themselves experiencing in a measure the impact of the factors influencing community life.

The *Middletown* survey thus covers a most varied field. Some data, such as those relating to income, are capable of precise statement, while others, involving attitudes to religion or education, are dependent upon the assessment of large numbers of statements and observations in the light of the compiler's own view of the situation, which may be biased. It may be said here that, while *Middletown* has been likened to a piece of field anthropology, its subject differs from a primitive culture not only in being more complicated, but also in being the culture in which the investigators have always lived; it is therefore difficult to be free from bias in interpreting the less tangible types of evidence. This is, of course, no reason to avoid undertaking such studies, since many of the data of social science are of the same character; it merely means that they must be undertaken with an unusual amount of thoroughness and caution.

VI

Brief mention may be made of the approach of the Chicago school. The Chicago studies bear a certain resemblance to those of Le Play in that they attempt an appreciation of the influence of the environment upon the society. In the main, however, they concentrate upon a special form of the problem: that of the adaptations of social activities and attitudes in the "natural areas" formed by culturally isolated minorities living in close physical proximity to other groups. "Behaviour," says Shaw,[1] "can be

[1] (15), p. 1.

studied profitably in terms of the situation out of which it arises. In other words, behaviour responses can be thought of as functions of situations. Analysis of individual factors is indispensable, but until the situations in which the individual's behaviour has occurred are studied and analysed, an understanding of his behaviour must necessarily remain incomplete."

An example of this method is Shaw's work on " delinquency areas " in Chicago. Shaw began by comparing the delinquency rates in different parts of the city. He found that all the rates tended to vary inversely with the distance from the centre of the city, although there were several deviations from this pattern. Further, he discovered that differences in rates reflected differences in community backgrounds, the high rates occurring in areas which are characterized by physical deterioration, a declining population, and the disintegration of the conventional neighbourhood culture and organization. Here the traditional norms and standards of the community disappear, its resistance to delinquent and criminal behaviour is low, and such behaviour is tolerated and may even be approved.[1] But there is still, according to Shaw, " the task of relating these social situations to the behaviour of the person himself. In addition to the analysis of the social contacts of the person it is necessary to know the inner personal world of the subject, his attitude and wishes, his interpretation of the situation, and his conception of himself. These subjective factors arise in the process of interaction between the person and the social world in which he lives " (p. 8).

A similar approach is employed by other members of the Chicago group, as by Zorbaugh (19) in a study of certain areas of the city, and by Thrasher (17) in a study of gangs, whose activities, he finds, develop in definite and predictable ways, are a function of specific conditions, and do not tend to appear in the absence of these conditions. They occur in the period of adolescence in the individual, which is generally marked by conflict, and only in the interstitial areas of the city, which are regions of deterioration and disorganization.

The method of this school is, in short, to ask what situations or characteristics of the milieu cause the attitudes, institutions, or

[1] (15), pp. 198–204.

modes of activity which are studied. The question is answered, first by relating the variations in the incidence of the activity to variations in the situation, such as differences in the locality, and secondly by seeking to explain the relation by means of interrogation or case-studies of the individuals concerned.[1]

VII

Without attempting to deal with other types of social surveys, or with industrial or regional planning surveys, or allied work,[2] we may say something in conclusion about social surveys in general.

It is clear that they can be usefully classified according to two principles. In the first place they can be divided into those the chief aim of which is publicity or the sensational, and those designed objectively to collect facts in an objective way. Ignoring the former, we can subdivide the latter into those with a purely scientific aim, and those which collect facts largely in order to form a basis for practical measures. *Middletown* and Booth's survey fall fairly well into the first and second categories respectively. From the nature of their purposes it thus follows that the second kind is concerned largely with the interrelated problems connected with the existence of poverty in societies, and seeks to study such aspects of it as can be presented in numerical form or can give conclusions which are easy to handle; while the first kind naturally seeks to examine all the significant aspects of society, and must therefore make an attempt at studying the nebulous ones as well as the concrete. For their respective purposes the two kinds may be equally useful, but for scientific purposes the value of the second is more limited.

The value for science of the social survey is that it affords a means of studying the working of social institutions; for although it covers only special instances of such institutions, it can do so very comprehensively. There is no need to stress the importance of this. General accounts of social institutions are obviously dependent upon detailed factual studies, and it is well known that much sociological work in the past has been based upon incomplete or inaccurate material. Furthermore, the method of the survey

[1] Among other American studies may be mentioned (7).
[2] For references to (10), see Chapters I and XVI.

is such that it can study the relations between changes in the various aspects of society. The explanation of a change in the form of an institution must be primarily sought in the other institutions of the society. Widely inclusive surveys are therefore essential in order to show in detail the effects of changes in the social environment upon people's beliefs and attitudes, and upon the working of government, education, and other institutions.

REFERENCES

(1) Booth, C., *Life and Labour of the People in London.* London: Macmillan, 1902–3. 17 vols.
(2) Bowley, A. L., and Burnett-Hurst, A. R., *Livelihood and Poverty.* London: King, 1915. pp. 222.
(3) Branford, S., and Farquharson, A., *An Introduction to Regional Surveys.* London: Le Play House, 1924. pp. 57.
(4) Champault, P., "La science sociale d'après Le Play et De Tourville," *La Science Sociale*, 1913, Fasc. 109. pp. 127.
(5) Eaton, A., and Harrison, S. M., *A Bibliography of Social Surveys.* New York: Russell Sage Foundation, 1930. pp. 467.
(6) Eden, Sir F. M., *The State of the Poor.* London: Davis, 1797. 3 vols.
(7) Harrison, S. M. (dir.), *The Springfield Survey.* New York: Russell Sage Foundation, 1920.
(8) Jones, D. C. (ed.), *The Social Survey of Merseyside.* Liverpool University Press, 1934. 3 vols.
(9) King, G., *Natural and Political Observations and Conclusions upon the State and Condition of England*, 1st ed. London, 1696.
(10) Lazarsfeld-Jahoda, M., and Zeisl, H., *Die Arbeitslosen von Marienthal.* Leipzig: Hirzel, 1933. pp. 123.
(11) Le Play, P. G. F., *Les Ouvriers Européens*, 2nd ed. Tours: Marne, 1877–9. 6 vols.
(12) Lynd, R. S., and Lynd, H. M., *Middletown.* London: Constable, 1929. pp. 550.
(13) Mayhew, H. *London Labour and the London Poor.* London: Griffin Bohn, 1861. 4 vols.
(14) Rowntree, B. S., *Poverty: A Study in Town Life.* London: Longman, 1922. pp. 496.
(15) Shaw, C. R., *Delinquency Areas.* Cambridge University Press, 1938. pp. 214.
(16) Smith, Sir H. L. (dir.), *The New Survey of London Life and Labour.* London: King, 1930–1935. 9 vols.
(17) Thrasher, F. M., *The Gang*, 2nd ed. University of Chicago Press, 1936. pp. 571.
(18) Wells, A. F., *The Local Social Survey in Great Britain.* London: Allen and Unwin, 1935. pp. 108.
(19) Zorbaugh, H. W., *Gold Coast and Slum.* University of Chicago Press, 1929. pp. 287.

CHAPTER XIX

THE PROBLEMS AND METHODS OF SOCIOLOGY

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I. INTRODUCTION

Sociology may be defined as the study of society, that is, of the web or tissue of human interactions and interrelations. It is concerned with all that happens to human beings in virtue of their relations to each other. It differs from some of the special social sciences, such as economics or jurisprudence, in stressing the interdependence of social facts and the necessity of viewing them in relation to each other, and from others, such as history, in trying to go beyond the description or classification of particular facts to the establishment of laws or generalizations.

Since social relationships are infinitely varied and subtle, sociologists have concentrated their attention on those relations which have come to assume a definite form or outline in societies, that is groups possessed of recognizable structure, and institutions, that is established forms or modes of relationship between men or groups. Sociology is also sometimes described as the study of social institutions, the term 'institutions' being regarded as including societies in this case. It must be remembered, however, that behind societies there is always Society, and that the conditions under which definite forms of grouping emerge out of unorganized human relationships is an essential problem of sociology.

The principal problems of sociology may be set out under the following headings:

(*a*) *Social morphology*: This includes (i) the investigation of the quantity and quality of the population, in so far as they affect social relations and the character of social groups; and (ii) the

study of social structure, or the description and classification of the principal types of social groups and institutions.

(*b*) *Social control*: The study of law, morals, religion, convention, fashion, and other sustaining and regulating agencies.

(*c*) *Social processes*: The study of the various modes of interaction between individuals or groups, including co-operation and conflict, social differentiation and integration, development, arrest, and decay.

(*d*) *Social pathology*: The study of social maladjustments and disturbances, and of the methods used for dealing with them.

These groups of problems have not been dealt with equally fully by sociologists, nor can it be claimed that sociology in its present condition is a systematic body of knowledge in which these problems are considered from a common point of view. The reasons for the diversity of approach can only be understood in the light of the history of sociological thought. Broadly it may be said that sociology has had a fourfold origin in political philosophy, the philosophy of history, biological theories of evolution, and the movements for social and political reform which found it necessary to undertake surveys of social conditions.[1] The different current conceptions of sociology and the unequal development of its branches appear to be due to the fact that one or other of these aspects of social problems has received particular emphasis in different countries and at different times.

The same reasons account for the varying importance attached by sociologists to the philosophical and more strictly scientific sides of their subject respectively. Those who have come to sociology from the philosophy of history have been mainly interested in problems of social change, and have searched for dynamic laws of human development. This was the guiding idea in the sociology of Comte, and it retains its place in more recent French sociology. Durkheim and his school no doubt considered the attempt to deal with humanity as a single whole over-ambitious, and therefore laid stress on the detailed study of specific societies. Yet the comparative method is for Durkheim the method *par excellence* of sociology, and the laws formulated are regarded as having general validity.

In England the main interest has been in studies of human development, although here the influence of biological theories of

[1] Cf. Chapter XVIII.

evolution made itself strongly felt and directed attention to a general study of genetic factors in the life of social groups. On this side sociology may be said to have arisen by way of reaction against the comprehensive schemes of development suggested in the philosophies of history of the 18th and 19th centuries.

At the present time there is a great deal of scepticism regarding the possibility of a ' world history ' or a ' world sociology '. Such scepticism is due in part to the difficulty of handling a vast accumulation of historical and anthropological data, in part to the prevailing view of the ' relativity ' of historical and sociological research, and also to the fact that the notion of development appears to have lost its impetus. Yet the belief in the unity of mankind persists, and efforts at comprehensive syntheses are widely welcomed. Perhaps the most important empirical contributions towards synthesis will come from studies of ' culture contact ',[1] but it would seem that the time is hardly ripe for all-inclusive schemes of human development, and that the discussion of the relevant problems will remain for the present on the methodological and philosophical level rather than on that of exact science.

The influence of philosophy on sociology can also be traced through its connection with political science. Among the Greeks the systematic study of political life was a branch of general philosophy. In modern times the inquiry into human affairs again began with the criticism of political authority and was not primarily an investigation of facts, but rather an evaluation of them in the light of an ideal conception of society based on the ' law of nature ', or later on other ethical theories. Sociology may be conceived as a development of political science in that it includes within its scope the study not only of governmental institutions but of other social institutions, such as marriage and the family, caste and class, forms of property, and economic organization. But just as in the case of political science it is not always easy to keep apart the ethical discussion of the ends of political organization from the account of actual forms of government, so in the handling of other social institutions ethical analysis and factual study are often interwoven. It must, indeed, be admitted that in a great many sociological treatises the study of actual facts receives but slight attention.

[1] Cf. Chapter XII, Section II, F.

The line of demarcation has proved very difficult to draw. Durkheim, who began by insisting on the desirability of distinguishing sociology from philosophy and on the importance of treating social facts "*comme des choses*", has ended by converting sociology into a kind of philosophy, deriving moral and religious values and even the categories of thought from society. In England, Hobhouse endeavoured, in the scientific part of his work, to avoid the use of terms with an ethical colouring, and to differentiate clearly between social science and social philosophy, although some of his critics have held that he did not succeed in doing so (21). Probably a great deal of the opposition shown towards sociology as a branch of learning is due to the fact that for the philosophers it is not philosophical enough, and for empirically-minded scientists not scientific enough.

The study of contemporary social conditions has in the main been inspired by direct interest in practical reform, and in general it has not been guided by any comprehensive theory of society as a whole. Except in America it has not usually been conducted by sociologists, but by students of the special social sciences, such as economists, statisticians, public health officials and the like. With the emergence of planning on a big scale there is, however, likely to be a growing demand for broader theoretical investigations. In this way sociology may acquire a more reliable basis than it has hitherto possessed.

The desire to free sociology from the charge of vagueness and all-comprehensiveness has led some of the German sociologists to treat it as having its own special and distinct field of inquiry. Thus L. Von Wiese has elaborated a 'relational' sociology, the object of which is to analyse and classify social processes, and to show how social structures arise through the action of the elementary social processes of association and dissociation. The treatment of the social processes and relationships is behaviouristic, the inward aspects being relegated to psychology. A. Vierkandt, on the other hand, regards sociology as being concerned with the analysis of fundamental social relationships, such as leadership, respect, submission, struggle, and power. The method followed in his treatise, *Gesellschaftslehre* (38), is described as 'phenomenological' in the sense given to this term by E. Husserl (18). To what extent this method really goes beyond psychological introspection or

inductive generalization cannot here be discussed. Outside Germany it does not appear to have found many followers.

On the whole it may be granted that one of the functions of sociology is to disentangle the social factor in human life, but it may be doubted whether an abstract discussion of social relation ships, or a phenomenological analysis of them without constant reference to the varied contents within which they are manifested, is as fruitful as the defenders of the ' specialist ' view of sociology maintain. Further, it is clearly also the function of sociology to study the relations between the social and other factors in human life. The degree and type of influence which these exert can be determined only by inductive methods, and the problem may receive a different answer with regard to different societies and different periods. It seems evident, therefore, that sociology cannot thrive without constant contact with numerous special studies, such as economic history, law, morals, and religion, and that its function is not only to interpret social relationships, but to study their interconnections.[1]

To illustrate the nature of sociological research I have selected for brief discussion a few topics falling within the first three of the divisions distinguished above, and have added some comments on problems of method.

II. SOCIAL MORPHOLOGY

A. POPULATION

1. *Quantitative Aspects*

The quantitative aspects of population have generally been studied from an economic point of view. Sociologists have not yet treated the subject systematically, although it is clear that it must be the starting point of any adequate morphology of human societies. Numerous attempts have, however, been made to correlate various social phenomena with the volume and density of population. Among the most important of these is Durkheim's theory that an increase in the density of population is the main cause of social differentiation, and that ' civilization ', which consists according to

[1] For a further discussion of the subject, see (12).

him in an intensification of contacts, is thus essentially connected with an increasing density of population (6).

Durkheim's treatise is of interest methodologically as illustrating the difficulties of inductive generalization in sociology. In seeking to establish his law concerning the transition from the 'mechanical' to the 'organic' types of society, he studies the character of the legal systems of a small number of selected societies (the ancient Hebrews, the early Romans, and Christian societies since the 14th century). He is able to demonstrate the growing importance of the contractual, as contrasted with the repressive, elements in law, and he connects this change with the growing importance of the division of labour in densely populated societies. A much more comprehensive survey of legal systems would, however, have been desirable, as well as some attention to apparently negative instances of densely populated areas, like China, where the organic type of society has not yet emerged. Durkheim's guiding hypothesis is nevertheless recognized as valuable, and it has suggested fruitful inquiries, among them C. Bouglé's study of the relation between the size and mobility of population and the spread of democratic ideas (3).

Another example may be given from the numerous studies of the bearing of demographic factors upon war (33). Several writers have suggested that there is a definite connection between 'over-population' and war. A psychological version of this theory is given by F. Carli, who argues that periods of rapid expansion in population are followed by an increase in imperialistic attitudes, which encourage expansionist tendencies, rivalries, and eventually war. In the case of the War of 1914–18, his theory is that the great increase in European population during the nineteenth century led to a disturbance of equilibrium, economic, political, and psychological, and that this was ultimately responsible for the war. The general thesis is disputed by many authorities,[1] and the relationship, if it exists, is evidently very complex.

Another aspect of the case is ably presented by A. and E. Kulischer in their work, *Kriegs- und Wanderzüge: Weltgeschichte als Völkerbewegung* (20). These authors regard war as a species of migration, and they have brought together a vast amount of data relating to (i) the military campaigns and migrations of the barbaric

[1] Cf. Carr-Saunders (4), pp. 305 ff.

peoples (7th–10th centuries), (ii) the period of absolutism, and (iii) the world movements of the 19th and 20th centuries. In their view changes in the direction of migration, of which war is only one, constitute an essential or decisive factor in world history.

A comparative study of types of expansion, and the conditions determining them, seems to be greatly needed. Is A. J. Toynbee right in saying that geographical expansion is a symptom not of social growth but of social disintegration, and that " militarism has been by far the commonest cause of the breakdown of civilizations . . . on record up to the present date " ? [1]

2. *Qualitative Aspects*

The problem of the bearing of the quality of the population upon social life and change has been approached in a variety of ways, which may be briefly exemplified. First, there are the explanations by historians of social processes in terms of supposed racial or national characteristics. Secondly, numerous statistical studies have been made by the so-called ' anthropo-sociologists ' (Ammon, Lapouge, and others) of selective migration and other forms of social selection (33). Thirdly, investigations of social mobility and theories of the " circulation of *élites* " may be mentioned. In this category is Pareto's theory that the different types of social structure and civilization are determined by the proportions in which certain types of individuals are found in the population (26). Of the same type is Pirenne's extremely well-documented analysis of the social origins of the men who were responsible for the growth of early capitalism in Europe.

These and other contributions to the subject belong, of course, to very different levels of scientific precision, but they all raise problems of fundamental importance to social psychology. Are social changes definitely correlated with changes in genetic characters, or at least with changes in the distribution of these characters in the population ? That the quality of the population must count is *prima facie* probable, but the relations between the inborn characters and the social environment are exceedingly subtle, and may well be such as to render possible great social changes without any real alteration of genetic type.

[1] Cf. (37), iii, p. 150.

In the first place, the social environment may exert an influence by encouraging some qualities and inhibiting others. Thus an authoritarian political system may cause individuals of independent mind to emigrate, and so affect the general quality of the stock; but far more commonly it will simply have the effect of compelling such individuals to exercise their qualities in non-political spheres of activity. Further, the social environment may influence the form in which individual capacities and tendencies are realized, without in any way changing the hereditary endowment. The desire for the approbation of his fellows may lead a savage to collect skulls, a financier to collect millions, and a scientist to collect specimens. In short, the same hereditary element may have very different effects according to the mode of expression encouraged by the social atmosphere.

Finally great caution must clearly be exercised whenever resort is had to supposedly 'inborn' qualities in explaining social behaviour. Rules prohibiting sexual relations between near kin have often, for example, been attributed to an inborn aversion to incestuous relationship, without ascertaining whether there is any independent evidence of the existence of such an inborn tendency. Acquisitiveness, again, is sometimes regarded as an inborn trait, but comparative studies suggest that it varies greatly in intensity among different peoples, and anthropologists have argued that among some primitive peoples its intensification is due to contact with Europeans and the fresh economic incentives which they bring with them. Similarly the emotions of shame and jealousy may have an innate basis, yet the forms of their expression are now known to vary widely with social conditions. An adequate social psychology should account for these variations as well as for the relatively constant elements, and for this extensive sociological studies are required.

B. SOCIAL STRUCTURE

A full account of social structure would involve a review of the whole field of comparative social institutions, which cannot, of course, be attempted here. Attention will therefore be confined to the principal conceptions which have been found useful in classifying the main types of social groups and institutions.

We may begin with the distinction drawn by F. Tönnies (36)

between community and association, which has played an important role in German sociology.[1] Community is a form of grouping arising spontaneously or naturally, resting on an accord of feeling and on a type of will, called by Tönnies *Wesenswille*, which is deeply rooted in the entire personality. Association, on the other hand, is artificially formed, reflective or deliberate, resting on a type of will which he calls the *Kürwille*; a deliberate decision consciously adopting means to attain given ends. Community is organic, spontaneous, creative; association is mechanical, artificial, and held together by ties which belong, to use Bosanquet's phrase, " to the world of claims and counterclaims ", the world of rivalries, bargainings, compromises. In the history of civilization Tönnies thinks that there has, on the whole, been a movement from community to association, from the type of solidarity exemplified in the intimate life of the family, the kindred, the village, or the small city, to the type of union seen in contractual associations or in the large city where, despite spatial contiguity, individuals do not really share in a common life.

In his later work the distinction between the communal and associational is combined by Tönnies with two other criteria to provide a more complex classification. These are the presence of a common determinate will enabling the group to act as a whole, and the question of whether the relationship is one of equal fellowship or of domination. This yields three types of relationship, which he designates *Soziale Verhältnisse*, *Samtschaften*, and *Körperschaften*, each of which may be either communal or associational. Thus the parent-child relationship is communal, i.e. based on deep-seated instincts and feelings, but authoritarian in character; the *Verhältnis* of brothers, friends, or comrades is again communal, but based on fellowship or equality; while in the communal relationship of marriage, subordination and fellowship are intermingled. Associational relationships are exemplified in the relation of master and servant, or master and apprentice, which historically has tended to pass from the communal form of the middle ages to the associational form of modern times. The most general form of the associational relationship is the contractual, e.g. between creditor and debtor, or employer and employed,

[1] For MacIver's somewhat different use of the same terms see below.

which binds individuals in a specific way while in other respects they may remain strangers, or even be enemies.

In the *Verhältnisse* there is no common determinate or unitary will, though the members are aware of their mutual relations. At the opposite end of the scale is the *Körperschaft*, which can act as a unity, whereas the *Samtschaft* is intermediate between these two. The members of a *Samtschaft* are bound by common feelings, attitudes, and desires, but it cannot act as a whole until it is organized into a definite corporate body. Examples of communal *Samtschaften* are the medieval estate or the Indian castes; modern social classes are more associational in character.

The *Körperschaft*, as we have mentioned, is characterized by its capacity of acting as an organized whole. The contrast between the communal and the associational type can be seen by comparing the medieval guild with the modern joint stock company. That the contrast admits of degrees will be realized when an employers' association is compared with a trade union. The former is thoroughly associational, that is, deliberately designed to serve business ends only, leaving the members no more bound to one another than are the shareholders of a joint stock company; but the latter has many elements of community, serving numerous social ends and providing varied opportunities for fellowship.

It will be seen that, for Tönnies, what essentially distinguishes community from association is the fact that the former embraces all the ends of man,[1] while the latter serves particular ends. This distinction, in itself fairly clear, is, however, combined by him with others more disputable, between, e.g., the instinctive and the reflective, the spontaneous and the deliberate, and the mechanical and the creative. It is interesting to note that it is these latter distinctions which were seized upon by the numerous movements in German thought and politics which have for their slogan " Back to Community ". They served as the vehicle of a protest against the mechanization of modern civilization and the individualism or atomism of modern societies, which are ascribed to an overvaluation of reason and a neglect of feeling, intuition, or instinct. Hence the emphasis on ' soul ' and ' blood ', and the demand for intimate and devoted group life, expressed in the youth movements and

[1] " nimmt den ganzen Menschen in Anspruch " (" Einleitung ", p. 100).

more recently in National Socialism. In this way the notion of community was turned to uses foreign to Tönnies's thought, and given a sentimental connotation rendering it unsuitable for scientific application.

As used by R. M. MacIver, the distinction between community and association is based on the range or inclusiveness of the relationships which bind the members to one another. " Wherever any group, small or large, live together in such a way that they share not this or that particular interest, but the basic conditions of a common life, we call that group a community. The mark of a community is that one's life *may* be lived wholly within it. that all one's social relationships *may* be found within it." [1] Associations, on the other hand, exist for specific purposes. MacIver adds another category, which corresponds roughly to Tönnies's *Samtschaften* and which he calls ' spontaneous configurations ', which may be enduring, as in the case of the social classes, or temporary, as in the case of crowds. They are different from associations in that they are not formally set up. The term ' group ' is used by MacIver to stand for " any collection of social beings who enter into distinctive social relationships with one another ". Associations are groups expressly organized for special purposes. A community is a group occupying a given locality and serving wide and inclusive interests. There are also looser configurations of people, responsive to like and common interests, but not expressly organized to fulfil specific functions.

For MacIver there are, then, three main types of groupings: (i) inclusive territorial unities ; (ii) interest-conscious unities without definite organizations (caste, class, crowd) ; and (iii) interest-conscious unities with definite organizations, which may be either primary (face-to-face) or large scale. Apparently he does not apply this latter distinction to the two other forms of grouping. In his classification MacIver also makes use of the distinction he draws between interests and attitudes ; communities and classes, in his view, reveal more directly social attitudes, while associations, being definitely functional, stand in closer relation to social interests.[2] Further, MacIver holds that in the course of social evolution, with increasing diversification of interests, groupings which in early

[1] (21), p. 9.
[2] (21), p. 55.

society had a communal quality tend to become more associational in character, although he does not think that this necessarily involves a loss of unity.

Von Wiese (42) employs what he calls 'social distance' as the criterion for classifying social wholes. By this is meant the degree of nearness or immediacy binding the members. He thinks that it is not in accordance with ordinary usage to designate all collectivities as groups; for instance, states or churches would not be appropriately designated groups. He suggests a threefold classification, into *Massen*, *Gruppen*, and *Abstrakte Kollektiva*. In crowds (*Massen*) the relations between the members are immediate and personal; in groups the relations are indirect, i.e. mediated by an organization; 'abstract collectivities' are thought of as impersonal, as the bearers of values more enduring than the particular individuals who enter into them.

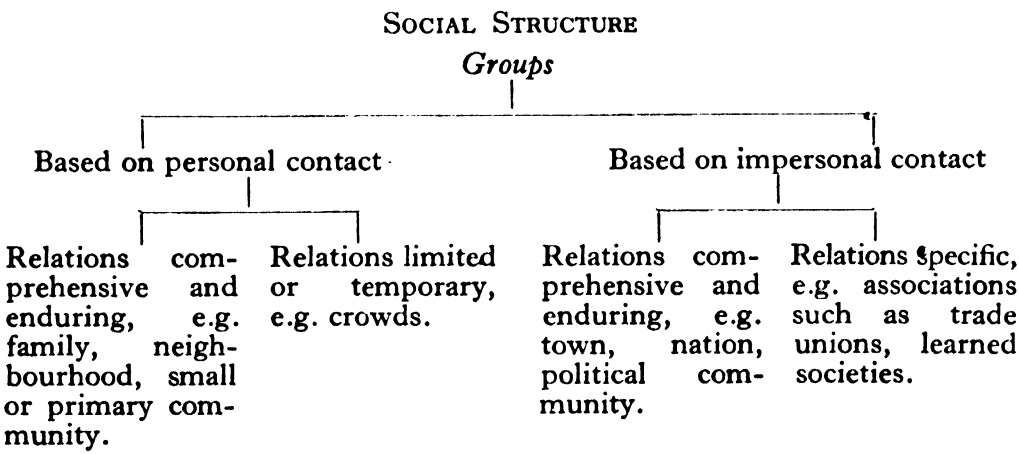
Crowds are either 'concrete' or 'abstract'. They consist of an indefinite number of people without any organization, held together by a common affect and vague notions of unity, the concrete type being temporary, the abstract type, e.g. 'the public', more enduring in character. Groups are formations having recognizable identity and unity. They are characterized by: (i) relative permanence and continuity; (ii) an organization based on the division of functions among the members; (iii) an idea of the group existing in the minds of the members; (iv) the emergence of traditions and habits; and (v) relations to other groups. Among the 'abstract collectivities' are included the State, the Church, estates (*Stände*), social classes, the economic system, and the 'collective systems of the mental life', namely the arts and sciences, with their auxiliary services.

Although the term '*Abstrakte Kollektiva*' is awkward, especially in its English rendering, it is clear that von Wiese has made a valuable contribution by pointing to the existence within the community of complexes, such as the economic system or the arts and sciences, which are not associations, or even compounded of associations. Further, a mere enumeration of associations concerned with specific purposes conceals the fact that in actual life interests are interwoven and that this interweaving is represented in structures going beyond particular associations.

To provide for these structures MacIver has suggested, in the

latest edition of his work *Society* (21), the term ' institutional complexes ' or ' functional systems '. It is easy to see that societies may be usefully distinguished by the different ways in which, for example, Church and State and the economic organizations are related and adjusted to each other, that is, by different types of institutional complex, and to bring out the nature of these functional connections is an important part of sociological study.

A review of the various classifications proposed, including a number not mentioned above, and a direct study of the facts classified, reveal that among the criteria which have been found helpful in analysing and classifying social structures are the range or inclusiveness of the social relationships; the personal or impersonal nature of the bond; the capacity of acting as a determinate whole; the degree to which members are conscious of the whole, or of symbols representing the whole; duration or relative permanence; whether membership is automatic or voluntary; and whether the group is ' open ' or ' closed '. The data do not lend themselves readily to dichotomous classification, but for the sake of clarity they have been set out in diagrammatic form.



The diagram does not, however, illustrate all distinctions of importance. It omits, for example, the presence or absence of the principle of subordination and hierarchical organization. Further, the distinction between groups and 'quasi-groups', the need of which is seen in the fact that Tönnies was obliged to invent the term '*Samtschaft*' and MacIver 'loose configurations', is naturally difficult to draw with any precision. It is arguable, for example, that nationalities or nations may not be organized groups, but are really *Samtschaften*.

The classification of 'culture areas', or complexes of entire civilizations, is still in its infancy. Gobineau enumerated nine distinct civilizations, Spengler eight. Toynbee (37) draws up a list of twenty-one 'societies'. These he classifies in various ways, so as to range them in a continuous series. At the one extreme are societies which do not appear to be related to any others, either earlier or later than themselves. At the other extreme are societies so intimately related that the question arises whether they are really distinct. Between them are societies standing in various degrees of relationship. Thus they may be 'affiliated' through having derived their religion from a universal church, or the relation may consist in the fact that the later society has been precipitated by a *Völkerwanderung* which accompanied the fall of the earlier society. The classification of societies, and especially the distinctions drawn between the various modes of 'affiliation', are made by Toynbee to yield a whole philosophy of civilization. The twenty-one societies are held to be comparable and to provide material for an analysis of the factors at work in the genesis and growth of civilizations.

Toynbee does not apply his method to the simpler societies, but several attempts have been made by ethnologists to work out schemes of culture areas. Recently Montandon (24) has enumerated twelve. Unlike the complexes differentiated by historians and archæologists, the ethnologists' schemes appear to contain units based not on complexes of traits actually found, but on hypothetical and disputed reconstructions of contacts and migrations.

The problems which emerge from the foregoing considerations may now be summarized:

(*a*) Under what conditions do the various modes of grouping which have been distinguished arise; e.g. what determines the emergence of nations? In particular, what determines the transition

from quasi-groups or *Samtschaften* to definitely organized groups such as associations ?

(*b*) How are the different groups and quasi-groups related to the functional systems, or to the community as a whole ? Associations of employers or of workers, for example, have stood in very different relations to the political organization in different societies. Thus in Rome the corporations were not a part of the political machine, whereas in medieval cities they frequently formed the units for electoral purposes, and in contemporary examples of the corporate state they are again becoming integral parts of the political structure. Similarly the relations between religious organizations and social and political institutions vary greatly in different societies. The study of functional interconnection is therefore a necessary complement to the detailed study of specific associations and institutions.

(*c*) Are there any regularities in the changes which associations and institutions undergo, and, again, are these changes functionally interconnected ? For instance, are changes in the institution of property correlated with changes in family organization, and are changes in class structure functionally connected with changes in the economic and political structure ?

It will be observed that in the study of the more advanced societies, at least, the functional and the comparative methods are complementary. For it is only by means of comparative study that we may hope to be able to distinguish between mere concomitance and functional interconnection.

III. SOCIAL CONTROL

In developed societies we find several types of norms regulating and controlling behaviour, such as those of law, morals, religion, convention, and fashion. The most important problems arising in this connection are :

(*a*) What are the characteristics distinguishing these norms from each other ?

(*b*) Under what conditions, social, economic, and political, do the various norms arise and become differentiated ?

(*c*) What influences are exerted by the various forms of social

rules upon one another; e.g. to what extent is law affected in its historical evolution by changes in moral outlook?

(*d*) In relation to law in particular, there arises the important question of how it is related to ideal justice, and whether there are any valid methods for studying this relationship.

Broadly speaking, these problems constitute the domain of comparative jurisprudence, of comparative morals and religion, and of social philosophy. There is available a vast body of descriptive and analytic material, but it must be confessed that despite the numerous comparative studies that have been made, especially during the last century, the task of comprehensive synthesis remains unachieved. Here the questions involved can only be discussed in very general terms, and with the restricted object of indicating a sociological mode of approach.

With regard to legal rules, it seems to be widely agreed that wherever there are limitations upon the will of individuals which are more than casual devices, and are determined in a constant manner, we have rules which are legal in their essence. In politically organized societies, i.e. in states, these rules are formally promulgated and enforced by explicit sanctions; but even there law is not in the main state-created. It is only as a result of a very long process of development that the state has come to take over, to an increasing extent, the administration of justice and the creation of the law, and to claim, at least in theory, supreme power over other associations which originally possessed their own law. It would seem that, historically, the need for reducing law to unity and system comes to be felt when the inner order of associations breaks down, or when, owing to changes in the distribution of power, a clash occurs between different associations and their spheres must be delimited. If a developed sociology of law were in existence it would show how changes occurring in the power of the various groups and social classes are reflected in changes in current views as to what is 'fit' or 'decent', and more slowly in changes in the norms of the law.[1]

An interesting historical generalization regarding the emergence of juridical rules, which seems to rest on a wide inductive comparison, is that juridical rules arise and become systematized

[1] Cf. Ehrlich (7), chap. 4.

when the central power which is to become the state must, in order to keep down its rival, the oligarchic nobility, come to an accord with the plebeians. Here both military and economic factors are clearly important, since military power is essential to centralization, while it is only when the people have attained a certain degree of wealth and coherence that they become of importance to the emergent monarchies.[1]

In developed systems it is usually easy to assign a given norm to the sphere of law, religion, morality, convention, or fashion, but there seems little agreement among students as to wherein precisely the difference lies, or as to why norms with apparently identical content are placed by different societies in different groups. The problems here raised have been much obscured by the tendency to confuse questions of sociological fact with philosophical or ethical considerations of what ought to be. For example, law is sometimes described as heteronomous and morality as autonomous. This distinction, however, ignores the fact that even in highly developed forms of morality the rules are in large measure heteronomous, since they come to the individual from the group and are maintained to a great extent by external sanctions. The most one can say is that moral rules tend to rely more on internal sanctions, i.e. upon a recognition by the individual of the ' intrinsic ' worth of certain acts, and of the intrinsic rightness of certain rules.

A similar objection holds, I think, in the case of the view that law is " the minimum of morality ". This formula may be of service in defining what law ought to be, in the sense of restricting legal regulation to those acts the performance or omission of which is so essential to the good of society that they cannot safely be left to individual choice or discretion. But clearly it does not describe law as it is, or has been. For on the one hand law is not always in conformity with moral standards, and on the other its sphere is often much wider in fact than the minimum indicated; in many societies legal sanctions are provided for religious and moral injunctions. To anyone who consults the literature on the subject it must, indeed, be obvious that no brief formula can describe the very complicated relations between the different types

[1] Cf. Hubert (17), pp. 132 ff.

of social norms. This situation is due partly to the absence of any agreement among lawyers as to the nature of law, and partly to the fact that non-legal norms have not yet been systematically surveyed. Meanwhile the following suggestions are tentatively formulated :—

(i) We may follow Ehrlich in saying that the " legal norm regulates a matter which, at least in the opinion of the group within which it has its origin, is of great importance, of basic significance ".[1] What is regarded as of basic importance is a matter which will differ very widely in different societies. Thus in patriarchal societies, where social order is closely linked with the order of the family, the injunction, " Thou shalt honour thy father and thy mother " is likely to be a legal proposition, while in other societies such an injunction may be relegated to morals, or even to etiquette. It has also been observed that what is regarded as of basic importance by the group within which the law originates may not seem to be of such importance to the community as a whole (no ethical evaluation being here attached to the term ' importance ').

(ii) Form and precision are essential attributes of law. By comparison with the body of law, the accepted morality of modern communities is vague, uncertain in its application, and unsystematic. This, however, has not always been the case. In the later middle ages, for example, when casuistry flourished, positive morality did tend to approximate to law in elaborateness and precision. From the fourteenth century onwards, as Sidgwick tells us (31), " ecclesiastical writers worked out a quasi-legal body of rules applied to the detail of life through the agency of the confessional, and their authority was not seriously disputed before the Reformation."

(iii) One aspect of the lack of definiteness of moral systems is that with regard to moral rules the correspondence between rights and duties is less precise than in the case of law. Thus if there is a general duty of beneficence, this does not involve a specific right on the part of any given individual to claim assistance. On this ground some authorities have described the essential distinction between law and morals as consisting in the fact that the former is imperative-attributive, while the latter is imperative only. This distinction seems, however, to ignore the fact that we certainly

[1] (7), pp. 167–8.

admit moral claims which have as yet no legal force. The point would rather appear to be that in the case of morals there are general rights and duties, the exact application of which is left in varying degrees to the individual.

(iv) The various classes of norms appeal to different feelings. In the main the violation of a legal rule evokes different feelings from those experienced when a moral rule is broken, a *faux pas* committed, or an act of indecency witnessed. Here there is clearly much work for social psychology to undertake. To social psychology belongs also the analysis of the sense of community and group solidarity, and of the psychological bases of custom, authority, and obedience.[1]

The psychology of the moral life has been much further developed than the psychology of law, owing to the fact that it has long formed a part of the philosophical handling of ethical problems. Indeed there are ethical thinkers who regard ethics as consisting essentially in the history of moral development and the psychological analysis of moral approval and disapproval. To me, however, it seems clear that the psychology and sociology of morals must be definitely distinguished from ethics proper. Ethics must, of course, start with moral judgments as data, but in dealing with them its method should be critical in the Kantian sense. In other words, it should seek to elicit the assumptions latent in the judgments, the categories they employ, and in the light of this critical work to discover whether any fundamental principles can be formulated whereby actual morality could be made more coherent and systematic.

In the present chapter we are concerned only with the psychology and sociology of morals, and the main trends of study will be briefly indicated.

On the psychological side, the English moralists of the eighteenth century devoted much attention to the analysis of moral approval and disapproval. The 'moral sense' school, best represented perhaps by Hutcheson, regarded approbation and disapprobation as "simple ideas which cannot be further explained". Hume considered approval to be more like a feeling, consisting in a specific or peculiar kind of pleasure, generalized and made disinterested by sympathy.

[1] For a brief account of social conventions, cf. (11).

Adam Smith departs entirely from the notion that approval and disapproval are simple entities. Our approval of tenderness or humanity, for example, is qualitatively different, he holds, from our approval of daring or magnanimity. Approval is, in short, a perception of the agreement of our feeling with the feeling of others, made possible by our power of sympathetic identification. Similarly disapproval is a perception of disagreement or difference between the feeling of the agent and the feeling of the onlooker, when on entering sympathetically into the situation of the agent we find that we cannot share his feelings.

This perception of agreement or disagreement makes possible a further judgment of propriety or impropriety, that is, a recognition of the appropriateness or fitness of the feeling to its object. In the case of virtue or excellence, this judgment of propriety is further complicated by admiration, i.e. approval heightened by surprise or wonder. Moreover, we judge not only of the propriety or impropriety of acts, but also of their merit or demerit, and these notions are connected by Adam Smith with two special emotions, namely gratitude and resentment. That act has merit or deserves reward which is the approved object of gratitude; that act has demerit or deserves punishment which is the approved object of resentment, 'approval' in both cases signifying the realization that either we or an impartial spectator would, if placed in the given situation, experience gratitude or resentment.

The above analysis relates to the judgments formed by the individual concerning the propriety and merit of the acts of others. Adam Smith notes that, in fact, our moral criticisms are at first directed upon others, and that it is only gradually that we learn to apply them to ourselves. We find that others are ready enough to judge us, and thus come gradually, and with difficulty, to see ourselves as others see us. To do this we have to place ourselves at a certain distance from ourselves, and invent the impartial spectator, 'the man within the breast', to judge our own conduct. The inner spectator is aided by general rules, however, in the absence of which impartiality is difficult to attain, and the regard for general rules is what we call the 'sense of duty'.

Among recent writers those who stand nearest to Adam Smith are E. Westermarck and S. Alexander, although both lay greater stress on the part played by social factors in the development of

moral sentiments. Westermarck's theory of the moral emotions closely resembles Adam Smith's account of merit and demerit. Westermarck believes that they are species of what he designates the 'retributive' emotions, typified by resentment and gratitude. These are not as such moral, but they can become moral when they are disinterested and impartial. Disinterestedness is made possible by the power of sympathy, which enables the individual to experience emotions on behalf of others.

The impartiality and generality of the moral judgment are due to the fact that it expresses emotions felt by society at large, and not by any given individuals. What the moral judgment expresses is not the emotion felt by the individual, but rather the tendency of certain acts to call forth emotions in the community. Like Adam Smith, Westermarck admits here an element of reflectiveness or reason, and he contends that on the whole moral judgments have gradually become more enlightened in the course of moral development. It should be noted that Westermarck uses his analysis of morals as the basis of his comparative study of social institutions, and considers that the analysis is largely confirmed by the results of his research (39, 40).

Alexander (1) follows Adam Smith even more closely than does Westermarck. The foundation of the moral judgment, he asserts, is gregariousness, which in man is transmuted into a conscious social interest. Under this impulsion we become interested in one another's actions, and by its aid the elementary impulses of resentment and gratitude grow into approbation and disapprobation. Men come to discover what will arouse the resentment of others and what others can be induced to sympathize with, and these discoveries, at least in so far as they relate to the simplest conditions of a common life, assume the character of invariable rules. Conscience is "nothing but the mass of loyalties which gather round ends which have been found experimentally in the course of time to satisfy the passions of men as adjusted to one another in submission to the social sense, and which is accordingly consulted as occasions arise as a short compendium and convenient vade-mecum of conduct".

Alexander will not concede that the harmonizing agent is reason, although he holds with Hume that reason is concerned not only with the finding of the means necessary for satisfying the passions,

but also with the cool comparison of different ends and the balancing of their attractions. No doubt he means that right and wrong cannot be ascertained by reference to *a priori* rules, but only by an experimental attempt to harmonize or adjust the desires or wills of the individuals concerned, and that this attempt is made under the impetus of the social impulse. It follows that if an individual feels that a particular mode of adjustment is wrong, presumably all he can do is to work on the sympathies of others until his wishes are fulfilled.

Alexander's attitude towards the part played by reason appears, indeed, somewhat inconsistent. Mere sociality, and even the best of good will, are surely not enough to solve the difficult problems of social adjustment. Alexander himself admits that the business of morality is to discover a system which " satisfies objectively " the impulse of sociality. To determine these objective conditions is surely the task of reason, although it may be true that in practice reason has not yet been given much scope in securing social adjustment. According to Alexander there are ' wise ' and ' foolish ' adjustments, and in the end reason is brought back in the form of the ' wise man ', or *phronimos*. The wise man has to consider not only what people actually desire, but what they might desire if they had his insight. In order to be consistent, however, Alexander would have to say that the conclusions reached by the wise man are not morally good, or right, until he has succeeded in inducing others to accept them, and that until there is social approval there can be no moral goodness.

Yet perhaps, as Alexander suggests, the function of the great moralists is to enlarge the contents of human nature by revealing impulses hitherto unsuspected, or by increasing or arousing sensitiveness to claims hitherto neglected. In this contribution, he contends, rather than in any claim to authority, lies their importance. But it would appear that in the end morality has little to contribute to the difficult problems of human adjustment beyond the maxim ' that ye love one another ', for what is morally good only emerges when the conflicts have in fact been resolved. This would be a depressing conclusion, if true, and indeed the actual moral codes known to history, even if they incorporate elements of reason, certainly cannot be held to have been dominated by reason. If, however, as Alexander believes, morality consists

in an adjustment of wills, reason may yet come to be of increasing importance in determining the objective conditions of harmonious adjustment; and, if so, ethics would necessarily be more closely related to psychology and sociology than it has been hitherto. Alexander's own discussion is of interest to the sociologist chiefly because it suggests that in order to understand the nature of morality we may usefully begin by inquiring how changes in social adjustment are actually brought about, and especially by examining changes in the sensitivity of the community. Studies of this kind have hardly yet been systematically attempted.

That the roots of morality are to be found in the social instincts is a view which has also been propounded with great power by H. Bergson (2). Here, however, the view appears in a distinctive form due to Bergson's theory of the relations between instinct, intuition, and intelligence, and to the distinction that he draws between two types of morality, the 'closed' and the 'open'. In the morality of 'closed' groups, the rules obtaining are imposed by the pressure of social habits. Obligation is then not, as Kant thought, a matter of reason, but a form of necessity analogous to instinct. In the social animals the adjustment of individual behaviour to the requirements of the group is, according to Bergson, automatically assured by the hereditary structure. Man is also a social animal, but being possessed of intelligence he has a measure of self-dependence and the power of initiative, which necessitate a subtler power of constraint. This is supplied by the feeling of obligation, the form which necessity takes in free beings capable of reflection. Rules arise out of the structure of the group, and each has its own constraint due to habit; the specific obligations are, however, always held together by a respect for custom as such, which binds the individual to his group and expresses his sense of solidarity with it.

By contrast 'open' morality is not group morality, but is found in exceptional individuals: sages, mystics, prophets, and saints, whom it inspires with a love going beyond the group to humanity, and indeed to love absolute, which is God. Closed morality acts through pressure, open morality through suasion, aspiration, enthusiasm. The former is static or fixed, the latter always in the making, always in movement. In Bergson's view the two moralities differ qualitatively, and from the one to the other there is no direct road. It is a mistake, he thinks, to suppose that we can pass from

the love of family, group, or nation to a love for humanity as a whole. Group morality is limited in its nature, and is indeed infected with hate and fear of the stranger. The higher morality is open only to the few who can transcend the limitations of group life, and who by their example exercise a fascination over others. Between the *âme close* and the *âme ouverte* there is the *âme qui s'ouvre*. Here the two moralities intermingle and are projected on an intermediate plane, in which justice is transformed by benevolence, and benevolence by justice.

Bergson's discussion has the merit that it seeks to account not only for the aspects of morality which are expressed in formed habits and the acceptance of imposed rules, but also for those forms of approval which we employ when we describe acts as noble, magnificent, heroic, sublime. But his distinction between the two types of morality is clearly too sharply drawn. In the first place, he exaggerates the immobility or fixity of the morality of what he calls the closed groups. In our own time, for example, very different and conflicting views are held regarding the major problems of social life, such as war and the use of force in general, property, or sex, and a detailed study of the thought of former ages reveals similar conflicts of opinion and attitude. Morality, in so far as it finds expression in the ideas of any social group, is always in the making, although the rate of movement may differ from age to age and people to people. In the second place, Bergson appears to be too ready to appeal to the mystical powers of the great moral innovators. There is no reason for regarding such innovators as supra-social, and their teachings are certainly not effective unless they become the vehicle of large and massive forces. For the sociologist the important problem is to show under what conditions the aspirations of the few can become the habits of the many, and in particular to explain why it is that in so many instances great moral ideas remain ineffective for ages and then suddenly inspire revolutionary fervour. If there are indeed two types of morality, as Bergson thinks, then it is the fields in which they overlap that are of fundamental interest to the sociologist.

It will be seen from the above brief survey that moral psychology has shown morality as moving between the poles of obligation and approval, pressure and aspiration, right and good. This duality has been variously accounted for. It has been ascribed to a conflict

between impulse and reason, between the social and other impulses, or between free intelligence and automatic habits. Perhaps a more fundamental explanation is to be found in the fact that morality is an attempt to introduce order in the life at once of the individual and of the group, and that correspondence between the two is achieved, if at all, only with great difficulty. Moral rules arise out of the needs of the social structure, they embody an adjustment of human relations to the requirements of the group. The adjustment is, however, for the most part crude and unsystematic, and the individual, in submitting to the requirements of the larger order of the group, may often fail to satisfy his inmost needs.

Moreover, as communities become more complex, stratified groups arise within them, which give rise to a division and conflict of loyalties. Obligation then ceases to be a simple reflection of the pressure of formed habits and group-suggestion, and the sense of duty becomes more complex than the mere acceptance of a rule because it is a rule. Perhaps the preoccupation of modern ethics with the notion of right and duty, in contrast with the Greek thinkers' emphasis on the notion of the good, is due to the fact that in modern conditions the view that in accepting the moral law the individual will find his own fulfilment has lost its *prima facie* plausibility. The difficulty is brought home to the reflective individual by the diversity of moral standards which he finds prevailing among the different groups within his own community, by glaring contradictions between private and public morality, and by the huge discrepancy between the ethical teaching of the spiritual religions and the moral principles which actually guide even enlightened men. Although for a great many people morality may still be conventional and authoritarian, a growing number of individuals are finding that even *Sittlichkeit* is not enough in a world of conflicting loyalties and allegiances.

In psycho-analytic literature Adam Smith's inner spectator, ' the man within the breast ', reappears in the form of the ' super-ego ', to which are attributed the functions of self-observation, moral censure, and repression. But while for Adam Smith it is the social group that provides the mirror in which the individual gradually comes to see himself, in psycho-analytic theory it is the father who provides the model for the super-ego. Without questioning the importance of the part played by early infantile experiences

in the formation of character, it may nevertheless be suggested that psycho-analysts have tended to treat the family too much in isolation from the wider social group, and in particular to neglect the pervasive influence exerted by the group upon the family. Freud himself notes that in the course of the individual's development the super-ego comes under the influence of persons, such as teachers, who are in the nature of substitutes for the father, and he even suggests that the super-ego of the child is modelled not so much on the pattern of the parents as on the super-ego of the parents, which they derive from *their* parents, and which thus becomes the bearer of the social tradition. But surely this suggestion implies that the authority exercised by the parents is itself socially conditioned, and leads us back to an inquiry into the origins of social norms, of which those regulating life within the family form only a part.[1]

The account given by Freud of the process whereby the external authority of the father is turned into an inner authority gives rise to a more radical criticism. The process is explained by self-identification with the father, but it is clear that in the course of this identification the father, and the later father substitutes, are idealized and given attributes which make them worthy of love. What is the root of this idealization? Why have men to persuade themselves that the people they obey are not only powerful, but wise and just? Is there not here a basic value judgment, of which no account is taken in the psycho-analytic theory of morals? Must we not value wisdom and justice, if we have to attribute these virtues to our leaders in order to justify our obedience to them? Probably this aspect of the problem tends to be neglected by psycho-analysts because they are more directly concerned with the repressive and authoritarian elements in morals than with the source of primary approvals and disapprovals.

In the sociological study of morals perhaps the most interesting problem concerns the variability of moral judgments. Contrary to widely held views, comparative studies reveal a considerable uniformity in the moral judgments regarding the fundamental social relationships. If we compare the list of *prima facie* duties drawn up by W. D. Ross[2] with the duties enumerated in

[1] Cf. Fromm (9).
[2] (29), p. 21.

comparative studies such as Westermarck's, the resemblance is striking. The duties of fidelity, reparation, requital, equitable distribution, beneficence, and non-maleficence or non-injury, are insisted on very widely in the primitive world, and even the duty of self-improvement is anticipated on the primitive level in the notions of self-regard and self-respect.[1] Westermarck himself concludes that " when we study the moral rules laid down by the customs of savage peoples we find that they in a very large measure resemble the rules of civilized nations ".[2]

The chief difference lies, of course, in the range of persons to whom the rules are held to be applicable, a range which has expanded in the course of history with the expansion of the social units and the accompanying widening of the altruistic sentiments. Other variations are traceable to differences in the general level of knowledge, to changes in religious beliefs, to the unequal complexity of social and political circumstances, to the degree of clarity with which the ends of life are apprehended, to the dominance of partial interests, or to confusions arising out of the difficulty of defining the relations between the collective good and the good of the component parts. Above all, with growing social differentiation hierarchical orders emerge, each with its own morality. Thus military groups, for example, inculcate codes of honour and superiority, while economic differentiation generates a class morality enjoining obedience and submission on the one side and restraint and considerateness towards ' inferiors ' on the other.

The problem of the relative significance of economic, political, intellectual, and religious factors in the shaping of morality is not one that lends itself to summary treatment, and in any case it may be doubted whether sociology has yet developed methods refined enough for its solution. It would be very difficult, for example, to estimate the comparative influence of economic, religious, and specifically moral factors in the changes of attitude reflected in the abolition of slavery, or the partial humanization of the criminal law. Hobhouse's elaborate survey shows a certain parallelism of ethical development with the general development of thought,[3] and of both with social development (16), but the connection

[1] (40), ii, p. 143.
[2] (39), p. 197.
[3] (15), Pt. II, chap. 8.

which he claims to establish is not very close or direct, and he recognizes that social change frequently governs, rather than obeys, the moral conscience (14).

The association between morals and religion seems to be closest in the case of the spiritual religions and the 'middle' civilizations, where religion provides sanctions for both moral and legal injunctions. Westermarck thinks that the "moral ideas of uncivilized men are more affected by magic than by religion, and that the religious influence has reached its greatest extension at certain stages of culture which, though comparatively advanced, do not include the highest stage".[1] The question of the definition of religion, however, enters here. It is arguable that what has occurred in the higher stages has been, not a lessening of the influence of religion, but a change in the character of that influence, in other words that both religion and morals have come to rest increasingly on inward experience and less on authority. In this way it is possible for the religions to provide a body of moral convictions at the very time when their formal doctrines are losing in importance. For further discussion of the complicated problems involved the works of Hobhouse and Westermarck may be referred to, as well as the rather different approach to the subject made by Carveth Read (27).

IV. SOCIAL PROCESSES

Of the large number of topics which fall under the head of social processes, I shall here consider only the problem of social development or evolution.

As is well known, the notion of development was familiar to philosophers long before the emergence of the biological theory of evolution, and in the opinion of many it has, indeed, a clearer relevance to the growth of mind and society than to the process of biological change. Since sociological theory has been profoundly influenced by the conceptions of evolution as current in biology and in philosophical speculation directly bearing on biology, however, it is useful to consider social evolution in the light of these conceptions. Three trends of theory may be distinguished,

[1] (40), ii, p 747.

all of which have affected, as they may have been affected by, the study of social change.

First, evolution has been used to describe the process of differentiation of species from a common stock or common stocks, that is, in Darwin's phrase, the process of "descent with modification". Secondly, biologists have used the term evolution to describe not merely the process of differentiation or diversification of species, but also the fact that in the course of organic evolution there has occurred a movement from 'lower' to 'higher' levels of life. It will be seen that this can be readily linked with the notion of progress in sociology, though difficulties at once arise regarding the interpretation of the terms 'higher' and 'lower', which may require different definitions in biology and in sociology. Thirdly, the conception of evolution has been generalized and applied to the whole range of the natural world. Thus in theories of 'emergent evolution' the attempt is made to map out successive orders of integration, exemplified in the series, say, of atom, molecule, colloidal unit, cell, and multicellular organisms of increasing complexity. This has an obvious bearing on sociology, in that societies may come to be regarded as constituting the 'next' level in development, and all known societies may be arranged in a series of ascending levels, whether 'emergent' or not.

The theory that similarities of form or structure can be explained by descent from a common source was applied to social phenomena before the appearance of Darwin's *Origin of Species*. It was used, for example, in relation to language by Sir William Jones a quarter of a century before Darwin was born. Darwin himself used the case of language to illustrate the principles of 'genealogical classification'. Comparative philologists have classified the large number of languages found in the world into families or stocks, and recently there seems to be a tendency to establish connections between groups of languages which had formerly been regarded as remote from each other. Their derivation from a common source is indeed not improbable.[1]

With regard to other aspects of human culture the notion of evolution was clearly enunciated by Tylor: "To the ethnographer the bow and arrow is a species, the habit of flattening children's

[1] (23), p. 85.

skulls is a species, the practice of reckoning numbers by tens is a species. The geographical distribution of these things and their transmission from region to region have to be studied as the naturalist studies the geography of his botanical and zoological species." By means of numerous illustrations Tylor goes on to show that the idea of evolution is more easily verifiable in the study of culture than in biology, and there can be no question that the combination of morphological classification with the study of geographical distribution has played an important part in the development of ethnology and archæology since Tylor's time.

It is, however, regrettable that sociologists have not paid more attention to the evidence for linguistic evolution, which raises in an interesting form all the major problems connected with the nature of social change, and also serves to bring out important differences between biological and social evolution. Thus it is clear that linguistic changes do not depend upon changes in the inherited structure of the people who create or adopt them, that the kinship or affinity of languages has nothing to do with continuity of descent in the biological sense, and that the survival of particular languages in the struggle for existence is determined by quite other factors than those important in the biological sphere. Other relevant problems concern the role of cumulative individual variations in social change, the influence of unconscious factors, the contribution of great personalities, and the nature of convergent evolution. The material for the solution of these problems is far more abundant in relation to language than to any other cultural elements.

While the idea of evolution in the sense of descent with modification can thus be applied fruitfully to the study of parts of culture which can be shown to have undergone a process of diversification from a common source, the same idea has proved even more suggestive when interpreted in the second of the senses distinguished above, and applied to societies taken as constituting unitary systems or wholes. Here the biological analogy is the classification of living things on the basis of level of organization or integration. Despite the charge of anthropocentrism, few biologists would deny that in some sense vertebrates are of higher organization than invertebrates, and mammals of higher organization than other vertebrates.

The criteria of advance have been variously defined. Some have found the criterion in increasing complexity, but perhaps the most satisfactory criterion is the degree of independence of a particular environment. Adaptation to the environment is not sufficient, for the lower organisms may be just as well adapted to their environment as the higher are to theirs. What is important is rather increasing plasticity and adaptability to varying environments, with consequently increasing self-dependence. This is achieved, as Spencer saw, by an increasing specialization of the parts of the organism, accompanied by an increasing integration. The integration is traceable not only in bodily structure and function, but also in the growth of mental powers, that is, of the ability to bring different actions and experiences to bear upon one another and so form them into systems. In dealing with the higher levels comparative psychology is therefore of the greatest importance, and it becomes possible to use as a criterion of advance the degree to which control of the conditions of life is consciously guided or directed.

The extension of the concept of evolution, conceived as a change in the level of organization, to the field of sociology is readily intelligible. Whether or not all life is social in character, it is clear that mental and social development come to be increasingly interconnected. Moreover, beyond a certain point further organization is achieved not so much by changes in the organic structure, as by the building up of structures of a different kind, namely the systems of relationships between individuals which we call social structures. In the case of human societies the most significant change which occurs is the replacement of the mechanism of genetic transmission by that of social heritage or tradition. The new mechanism makes possible co-operation on an ever-increasing scale, and above all it immeasurably increases the power of ' inter-learning ',[1] i.e. of learning from the experiences of others, whether near or distant in time or space. It is clearly this change which makes human development distinctively social development. The development or fulfilment of human potentialities through tradition, mutual stimulus, selection, and co-operation proceeds chiefly by means of those changes in the relations between individuals which constitute social structure.

[1] This point is treated with great thoroughness by Spiller (35).

Social development is thus social in two senses of the word. First, it operates through changes in social structure and especially in tradition, and not in the main through a modification of genetic type. Secondly, it has consisted in an extension of the co-operative elements in human relations. The first point raises the difficult question of the influence of 'racial' and more general genetic factors on human development, and cannot be discussed here, but in my opinion there are good grounds for asserting that the course of history has been on the whole independent of germinal change.[1]

With regard to the second point, an enormous movement of unification is apparent throughout most of human history. It is exhibited in the increase in size of political aggregates, in the growth of political and economic interdependence, and possibly, despite cultural diversity, in an underlying assimilation or convergence in science, art, religion, and culture generally. Although some interdependence has always existed, there can be no doubt that it has grown enormously in the course of history. It is interesting to note in this connection that, according to Toynbee's recent survey, the 'unrelated civilizations' are in a minority of six out of twenty-one, that these belong to the infancy of civilization, and that the present conditions of mutual influence preclude the possibility of unrelated civilizations ever emerging again.[2]

It might, however, be urged that in thus insisting on unification we have ignored the element of force, pressure, and conflict, which perhaps has also increased, and that this element must be included in the conception of social development, since it has certainly played a large part in extending the area of social organization.

The problem may be approached in two ways. In the first place, an attempt might be made to show that, taking the history of humanity as a whole, the co-operative principle has been gaining ground over the principle of conflict. Even if the general movement from force to persuasion reflects no more than a change of tactics on the part of dominant groups, the fact that the change had to be made indicates a wider diffusion of knowledge and the power of self-direction among the masses of men. It might be argued, again, that the empires created and maintained by war have

[1] Cf. (4), concluding chapter, and (13), chap. 3. [2] (37), i, pp. 184 ff.

eventually perished by war,[1] and that enduring success has only been achieved when conquerors have managed to transmute force into authority, and to secure some measure of inward unification by winning the consent, or at least the acquiescence, of the governed.

If this attempt to estimate the net gains of the co-operative principle in humanity be deemed impracticable, it might be contended, in the second place, that we could still arrange human societies on a scale from the same point of view, by maintaining that those communities have achieved a higher organization which have secured order and efficiency in large areas with a minimum of coercion, and have thus provided greater opportunities for the fulfilment or realization of human capacities. Further, even if such a line of development were only one among many others, it would retain its importance as an indication of the possibilities open to mankind. If the biological analogy is to be pursued we ought not, indeed, to expect evolution along a single line, still less should we expect all evolution to be progressive. Evolution, Julian Huxley tells us, " is a series of blind alleys, some extremely short, leading to species and genera that undergo no further development or even become extinct, others longer, to be reckoned in millions of years, which yet come up in the end against their terminal blank wall. Only along one single line is progress and its future possibility being continued—the line of man." [2] Perhaps progressive evolution, as judged by the criteria above indicated, including the criterion of free co-operation, is likewise only one of many types apparent in the history of mankind, and yet the societies that are moving in this line may in the long run show greater vitality than others, and more promise of further development.

On the view here briefly indicated progressive social evolution has consisted in: (i) a growing command over the conditions of life, achieved by increasing knowledge of nature, including mind and society; (ii) the growth of co-operation, partly by an increase in the size of communities, partly by the organization of the relations between communities; and (iii) a change in the character of co-operation in the direction of freedom, and the emergence into the consciousness of men of the sense of their unity and of the

[1] Cf. Toynbee (37), and Gordon Childe (5), p. 265. [2] (19), p. 98.

need for reconciling the requirements of order and liberty on a world scale.

Taking mankind as a whole, development in one direction has clearly often been accompanied by loss and retrogression in another. Thus increase in the scale of organization has often been achieved on the principle of subordination and has meant a loss of freedom; increasing power over nature, and even collective efficiency, may result in stultifying and thwarting the deepest needs of individuals. Yet on the balance there may often have been a net gain, and no doubt some communities will have come nearer than others to satisfying the joint requirements of development and in this sense may be further along the road of progressive evolution.

Two of the criteria of development referred to above, namely increasing control over the conditions of life and the growth of co-operation, may be readily expressed in terms which a biologist might use without committing himself to any particular ethical theory. Doubt may, however, arise regarding the third, which might be thought to introduce distinctively ethical categories. If, however, development is understood as consisting in a process whereby a full realization or fulfilment of human capacities is gradually attained, that society might be regarded as most developed which evokes the most spontaneous devotion to common ends among its members and releases the greatest fund of intelligent energy. It might, indeed, be urged that the societies which have developed furthest in such directions will have greater vitality as compared with societies which are based on subordination and deny scope for initiative to the bulk of their members.

Whether or not this form of argument would satisfy a biologist, it is clear that ethical and biological criteria of development cannot be assumed to coincide without careful examination. Increase in power over nature, including human nature and social organization itself, may be used in the service of bad ends, and even intelligent and free co-operation within a community may be ethically bad in so far as it ignores or overrides the just claims of other communities. Clearly not all development, and not even all social development, is good. The most one can say is that on the assumptions of a rationalist theory of ethics there could be no ultimate fissure between the requirements of ethics and the requirements of a scientific sociology. This must not blind us to the fact that the development

which has occurred in history has, on any theory of ethics, been decidedly uneven, although perhaps, taking mankind as a whole, a substantial advance has nevertheless been made.

The difficulties in the way of general progress arise partly from the fact that development, as judged by the criteria defined above, has been unequal, and advance in one direction has often constituted a hindrance to advance in another. Thus with respect to the growth of the power of conscious control, our control over inorganic nature infinitely surpasses our control over life, mind, and society; and since the former type of control may be used for purposes of destruction, there is the danger that before mankind has acquired sufficient knowledge of the causes of social change, and sufficient moral wisdom to apply it aright, the whole social structure may be wrecked, and the work of organizing mankind have to be begun all over again.

Further, if progress is to move more securely, it must now be on a world-wide scale. As a result of improvements in technical power, the communities of the world have become closely interdependent, and, unless their interaction is rationally controlled, a clash between them may lead to irretrievable disaster. Self-contained development is increasingly difficult and precarious. Autarchy necessitates stringent autocratic discipline, and this, besides severely limiting the individuality of the component members of the group, frequently fosters enmities with other groups and in turn demands a greater degree of militarization within.

The chances of 'limited' progress are therefore slighter than they have ever been before, and increase in the scope of organization grows ever more vital as a component of development, while at the same time infinitely complicating the problem of reconciling order with freedom. The element of hope in the situation is that the problem has at last begun to be faced on a world scale, and that the conception of a self-directed humanity has emerged, at least in theory. It is sometimes urged that the forces making for disruption are inherently discrepant and must eventually bring about their own defeat. But this optimistic estimate ignores what Renouvier has described as the "terrible solidarity of evil", the fact that greed and deceit, violence and war, breed and support each other. A theory of social dynamics must take this 'solidarity' into consideration.

The place of the theory of social development in wider evolutionary theories can only be briefly mentioned here. In Hobhouse's work the evolution of society is considered as a phase in the evolution of mind. He argues that 'orthogenic evolution' can be made intelligible only by assuming the presence within the system of reality of a conational force, which by a series of syntheses grows in scope and articulateness and becomes at last conscious of its efforts in the growth of humanity.

In the philosophy of holism, societies are not regarded as constituting a new type of whole: "the society or group is organic without being a whole." [1] In dialectical materialism, society appears as a sort of 'emergent' or qualitatively new entity. This is hinted at also by C. Lloyd Morgan (25), and developed further by W. M. Wheeler (41).

In a different form the notion that societies constitute qualitatively new wholes had been used by sociologists long before the rise of the philosophy of emergent evolution. It was implied by Wundt, for example, in his theory of creative synthesis in relation to the general will of groups, by Durkheim in his theory that social facts are *sui generis*, and by many others who conceive of a group mind as different from the sum of its parts. On general grounds, however, we should expect to be able to explain social phenomena in terms of laws governing (i) the human mind, (ii) the interactions of human beings with one another, and (iii) the consequences of such actions. From the point of view of methodology, therefore, the question of whether there are irreducible social laws must not be prejudged in the interest of general theories of emergent evolution, or in order to secure an independent status for sociology, but should only be decided *ambulando* as our knowledge of social phenomena grows.

V. METHOD

A. TYPES OF GENERALIZATION IN THE SOCIAL SCIENCES [2]

A survey of sociological work shows that the generalizations which have so far been attempted may be classified under the following heads:—

[1] Cf. Smuts (32), p. 339.

[2] For a fuller discussion of the subject treated in this section, see (10).

(i) Empirical associations, or correlations, of varying degrees of definiteness between concrete social phenomena. Thus it may be shown that in certain areas urban divorce rates are approximately double the rural rates, or that the marriage rate varies with variations in the volume of trade, or that crime rates are higher in towns than in the country.

(ii) Generalizations formulating the conditions under which institutions or other social formations arise. For example, the development of capitalism may be held to be associated with the existence of large accessible markets, a sufficient specialization of the industrial arts to make indirect methods of production profitable, the existence of a class of workers who find it difficult to earn an independent livelihood, and perhaps also the dominance of a certain mentality, which is expressed in the desire and the capacity to apply accumulated wealth to profit-making, besides other factors.

(iii) Generalizations asserting that changes in given institutions are regularly associated with changes in other institutions. For instance, the extension of public order in the simpler societies and in the early civilizations may be linked with an extension of stratification according to the principle of social and economic subordination ; or social and cultural changes may be alleged, as by followers of historical materialism, to be invariably associated with changes in class structure.

(iv) Generalizations asserting rhythmical recurrences or phase-sequences of various kinds. Examples are the attempts to distinguish the ' stages ' of economic development which have been made by Bücher, Schmoller, and many others, and the view that economic development passes through phases of expansion and contraction, or from phases of aristocratic control, from above, to phases of democratic control, from below.

(v) Generalizations describing the main trends in the evolution of humanity as a whole. Examples are Comte's law of the three stages ; the Marxist theory of a movement from an undifferentiated or class-less society through various forms of class differentiation to a class-less society again ; Hobhouse's attempt to correlate social development with mental development ; as well as many other schemes of social evolution which do not stress the notion of recurrence or repetition of given sequences, but are concerned

rather with the trends that can be disentangled in human culture as a whole.

(vi) Laws stating the implications of assumptions regarding human behaviour, but leaving to further inquiry the problem of how far the assumptions correspond to fact, and to what extent deviations can be explained by reference to 'disturbing' factors. Examples are the laws formulated in economic theory.

It will perhaps be generally agreed that sociological investigations should be carried out in accordance with what Mill called the 'Inverse Deductive Method'. In other words, inductive generalizations, whether reached by statistical methods or by the comparative method, should be further verified by deduction from more ultimate laws. Mill himself thought that these laws would be furnished by psychology and by the new science for which he proposed the name of 'ethology', and which corresponds to a considerable extent to what is now called social psychology. Possibly, however, there may be sociological laws *sui generis*, and some may think that the laws of biology are also of importance in dealing with the evolution of societies.

If, now, we look back at the types of generalization enumerated above, it will be seen that the degree to which they satisfy the requirements of the Inverse Deductive Method varies greatly from case to case. Thus most of the investigations falling under the first head remain on the empirical level. It will, however, be observed that statistical associations are held to be 'intelligible' when an interpretation of the relationship can be given in terms of motives assumed to be normally operative in popular psychology. For instance, the alleged relation between increase in the crime rate and economic crises is held to be intelligible if economic factors can be shown to result in a loss of morale; a fall in the birth rate is regarded as explained if appeal can be made to generally operative motives, such as the desire to maintain a certain standard of living. The psychological factors are as a rule stated only in general terms, although it is often felt that they ought to be more accurately investigated by a scientific psychology.

In historical generalizations, also, further explanation is sometimes attempted in psychological terms. Thus Pirenne's generalization that in the history of European capitalism there has occurred a regular alternation between periods of economic freedom and of

economic control, and a similar alternation between periods of energetic innovation and periods of conservatism and stabilization, is explained by him in psychological terms. The ' new men ' who introduce a new phase are marked by audacity and independence, while their descendants are anxious rather to preserve what has been won, and are inclined to support any authority capable of giving them the necessary security. Here again the psychology employed is of the popular variety, as in the description of the *parvenu*.

The more ambitious generalizations formulating long-range trends in the history of humanity are usually supported by inductions from data reached by the comparative method, but in most cases they are linked deductively with wider theories of development. Only a few examples can be given here. Spencer's law of a transition from militant to industrial types of society is reached explicitly by the inverse deductive method, that is by the comparison of a number of societies, supported by a deductive analysis of the nature of compulsory and voluntary organizations. The whole argument is further connected by him with his general law of evolution, on the assumption that increasing differentiation of functions must eventually limit the scope of governmental organs and encourage voluntary and contractual co-operation over ever wider fields of social life (34).

Durkheim's law of a movement from ' mechanical ' types of society, which are based on the similarities between men, to ' organic ' types, based on the division of labour, is established inductively, and chiefly by means of a comparison of the legal systems which prevail in societies of the two types. The explanation of the law appears to be in biological terms, since he finds the cause of the development in the increasing density of population, which according to him necessitates increasing specialization and division of labour. The explanation is not teleological. Civilization, which depends on an intensification of social life, is not an end foreseen ; not a function of the division of labour, but merely its " *contre-coup* ".[1]

Hobhouse's sociological theories are based on a wide induction of facts derived from anthropology and history. He traces the

[1] (6), p. 308.

development of the human mind in the spheres of cognition, of control over natural forces, of ethico-religious belief and practice, and of imaginative creation. As a result he attempts to establish a correlation between mental advance and the growth of the social fabric, as judged by the scale of organization, efficiency in control and direction, co-operation in the satisfaction of mutual needs, and the scope afforded for personal development. The correlation is rough and indirect, and there is in particular a lag in the accommodation of social to ethical developments. Yet in Hobhouse's view it is sufficiently clear to justify the hypothesis that the underlying force of historical evolution is to be found in the growing power of the mind, gradually obtaining a firmer grasp over the conditions of its development, but as yet not completely in control.

The argument is on the whole inductive, but since Hobhouse's sociological studies are part of a wider philosophical system, they are no doubt influenced by another hypothesis which he had come to accept, concerning the part played by mental forces in the whole process of evolution. This hypothesis, in turn, is formulated by Hobhouse on the basis of both a wide empirical survey and a metaphysical analysis of the logical requirements of systematic explanation, and he attaches great importance to the fact that these two lines of investigation lead to similar conclusions.

Of the main types of generalization enumerated above, those of the sixth group alone are reached deductively. There seem to be great differences of opinion regarding the way in which, in the case of economic theory, the transition is effected from deductive theory to the empirical facts. According to some authorities, the laws of economics are analytic propositions bringing out the implications of certain assumptions regarding human behaviour. In so far as these assumptions correspond to fact the implications will be taken to hold good in fact, in the absence of disturbing factors. Other authorities, however, regard economic laws as hypotheses which have to be tested or verified by the facts. To the latter authorities induction and deduction are integral parts of one set of logical operations; to the former induction has no verificatory function, the business of empirical studies being merely to reveal the fields within which theories otherwise established may be correctly applied, or to suggest new problems for deduction (35, 38).

B. THE COMPARATIVE METHOD

It will be clear from the above discussion that in a great deal of sociological work appeal has to be made to the comparative method, and some account of it is therefore appropriate.

In essentials this method is an application of a general rule of inductive logic: to vary the circumstances of a phenomenon with the object of eliminating variable and inessential factors, and so arriving at what is essential and constant. What is peculiar to the method is the use of data derived from different regions or different times. Reference to the types of regularity distinguished above will show that the use of comparative data is of varying importance. When a phenomenon under investigation exhibits sufficient individual variations within the same society, or at the same period of time, it may be possible to establish real connections without going outside that society or period. In the statistical study of crime, for example, differences of economic status, of education, of type of family life, of psychological make-up, and of hereditary disposition within the same society afford sufficient variation of circumstances to render possible some estimate of the relative significance of the different factors involved in criminal behaviour.

Yet even in the investigation of problems of this kind comparative studies may be of great importance, and are in some cases unavoidable. A study of the causes of suicide, for example, may be conducted within a particular group by noting its incidence in different economic grades, social classes, and religious denominations, and in relation to various psychopathic traits. But if the study were confined to a particular group certain empirical associations might easily be given undue importance. Thus a lower incidence of suicide among Catholics might turn out to be connected with the fact that in the particular locality studied Catholics lived mostly in rural areas, and in order to carry the inquiry further it would then be necessary to find areas in which religious denominations were differently distributed.

As soon as we move from the study of phenomena presenting individual variations to that of complex social formations or institutions, the importance of comparative studies becomes obvious. If, for example, we wish to know the conditions under which slavery, or serfdom, or any other forms of economic organization arise, it is necessary to study their history in different societies.

The problem of the extent to which a phenomenon like the rise of nationalism is conditioned by the need for economic or political unification, by the growth of the middle classes, or by war, or the problem of the limits set to national assimilation by racial heterogeneity or differences in religion, obviously requires wide comparative study for its solution. In short, as soon as sociology passes from the descriptive to the analytic level, the comparative method is essential alike for tracing genetic connections and for establishing any other mode of causal relationship.

It is important to note that the comparative method is not as such committed to any particular theory of social evolution, still less to evolution along a single line. Its primary object is to provide a social morphology, or a classification of the forms of social relationships, with a view to facilitating causal analysis. This includes analysis of the causes which explain why one form succeeds another, but we cannot assume at the outset of the inquiry that the laws of social change are necessarily evolutionary in character. It is true that in some of the earlier expositions of the comparative method the belief in regular or uni-linear evolution was implied, but this belief is not essential to the method, nor has it in fact been held by the more important thinkers.

Even the arch-evolutionist Herbert Spencer did not believe that every people necessarily passed through the same stages in regular and progressive order, and he insists that "it is only by taking into consideration the entire assemblage of societies that the law of evolution can be shown to be at work in society".[1] There is hardly a trace of the notion of automatic development in Tylor's work. As early as 1865 Tylor explained that the similarities in institutions or beliefs which can be found in different parts of the world may be variously accounted for, sometimes by the like working of men's minds under like conditions, sometimes by common descent, sometimes by borrowing direct or indirect.

Similarly Freeman (8), using historical material, carefully explains that likenesses may be due to direct transmission, independent invention and like circumstances, or common descent, and that the comparative method is not committed to any of these explanations *ab initio*. The notion of automatic or uni-linear evolution is also

[1] (34), iii, pp. 598 ff.

entirely foreign to the use made of the method by such writers as Sidgwick, in his *Development of European Polity* (30), or more recently H. Sée and Sombart, in their studies of the rise of capitalism and of the different forms of land-ownership, or Lord Bryce, in his study of democracy. It is to be observed, further, that the method can be and has been used without reference to any evolutionary theory whatever, as by Westermarck and Durkheim.

In applying the comparative method, one should certainly not start with hypothetical first stages and then deduce subsequent developments. In the absence of direct evidence of historical genesis, reconstructions of early stages should only be made, if at all, not at the beginning, but at the end of an inquiry. In other words, when we already know something of the nature of institutions, and of the conditions under which they came into being, we may be able to infer which institutions are likely to have existed in the circumstances in which prehistoric primitive man lived. Such reconstructions should be inferences from theories and facts otherwise established, and not the foundation on which sociological theory is made to rest.

REFERENCES

(1) Alexander, S., *Beauty and other Forms of Value*. London : Macmillan, 1933. pp. 305.
(2) Bergson, H., *Les Deux Sources de la Morale et de la Religion*. Paris : Alcan, 1932. pp. 346.
(3) Bouglé, C., *Les Idées Égalitaires*. Paris : Baillière, 1889. pp. 251.
(4) Carr-Saunders, A. M., *The Population Problem*. London : Oxford University Press, 1922. pp. 516.
(5) Childe, V. Gordon, *Man Makes Himself*. London : Watts, 1936. pp. 275.
(6) Durkheim, E., *De la Division du Travail Social*, 5th ed. Paris : Alcan, 1926. pp. 416.
(7) Ehrlich, E., *Fundamental Principles of the Sociology of Law*. Cambridge, Mass. : Harvard University Press, 1936. pp. 541.
(8) Freeman, E. A., *Comparative Politics*. London : Macmillan, 1873. pp. 522.
(9) Fromm, E., "Autorität und Familie," *Schriften des Instituts für Sozialforschung*, 1936, v, 76–135.
(10) Ginsberg, M., "Causality in the social sciences," *Proc. Aristotelian Soc.*, 1934–5, xxxv, 253–270.
(11) Ginsberg, M., "Conventions, Social," *Ency. Soc. Sci.* (ed. E. R. A. Seligman), 1931, iv, 351–3.

(12) Ginsberg, M., "Recent tendencies in sociology," *Economica*, 1933, xiii, 22–39.
(13) Ginsberg, M., *Sociology*. London: Thornton Butterworth, 1934. pp. 255.
(14) Hobhouse, L. T., "Comparative ethics," *Ency. Brit.*, 14th ed., 1929, vi, 156–164.
(15) Hobhouse, L. T., *Morals in Evolution*, 3rd ed. London: Chapman and Hall, 1915. pp. 648.
(16) Hobhouse, L. T., *Social Development*. London: Allen and Unwin, 1924. pp. 348.
(17) Hubert, R., "Croyance morale et règle juridique," *IIe Annuaire de l'Institut International de Philosophie du Droit*, 1936, 125–144.
(18) Husserl, E., "Phenomenology," *Ency. Brit.*, 14th ed., 1929, xvii, 699–702.
(19) Huxley, J. S., "Natural Selection and evolutionary progress," *Rep. Brit. Ass. Adv. Sci.*, Blackpool Meeting, 1936. Presidential Address (Sect. D), 81–100.
(20) Kulischer, A., and Kulischer, E., *Kriegs- und Wanderzüge: Weltgeschichte als Völkerbewegung*. Berlin: de Gruyter, 1932. pp. 230.
(21) MacIver, R. M., *Society*. New York: Farrar and Rinehart, 1937. pp. 596.
(22) Marshall, A., *Principles of Economics*, 7th ed. London: Macmillan, 1916. pp. 871.
(23) Meillet, A., *Les Langues dans l'Europe Nouvelle*. Paris: Payot, 1918. pp. 343.
(24) Montandon, G., *Traité d'Ethnologie Culturelle*. Paris: Payot, 1934. pp. 778.
(25) Morgan, C. Lloyd, *Emergent Evolution*. London: Williams and Norgate, 1923. pp. 313.
(26) Pareto, V., *The Mind and Society*. London: Cape, 1935. 4 vols.
(27) Read, Carveth, *Natural and Social Morals*. London: Black, 1909. pp. 314.
(28) Robbins, L., *Nature and Significance of Economic Science*. London: Macmillan, 1935. pp. 160.
(29) Ross, W. D., *The Right and the Good*. London: Oxford University Press, 1930. pp. 176.
(30) Sidgwick, H., *Development of European Polity*. London: Macmillan, 1903. pp. 404.
(31) Sidgwick, H., *The Elements of Politics*, 2nd ed. London: Macmillan, 1897. pp. 665.
(32) Smuts, J. C., *Holism and Evolution*. London: Macmillan, 1926. pp. 361.
(33) Sorokin, P., *Contemporary Sociological Theories*. London: Harper, 1928. pp. 785.
(34) Spencer, H., *Principles of Sociology*, 3rd ed. London: Williams and Norgate, 1897–1906. 3 vols.
(35) Spiller, G. G., *The Origin and Nature of Man*. London: Williams and Norgate, 1931. pp. 383.
(36) Tönnies, F., *Einführung in die Soziologie*. Stuttgart: Enke, 1931. pp. 328.

(37) Toynbee, A. J., *A Study of History*. London : Oxford University Press, 1934. 3 vols.
(38) Vierkandt, A., *Gesellschaftslehre*, 2nd ed. Stuttgart : Enke, 1928. pp. 484.
(39) Westermarck, E., *Ethical Relativity*. London : Kegan Paul, 1932. pp. 301.
(40) Westermarck, E., *Origin and Development of Moral Ideas*. London : Macmillan, 1906. i, pp. 716 ; ii, pp. 865.
(41) Wheeler, W. M., *Emergent Evolution and the Development of Societies*. New York : Morton, 1928. pp. 80.
(42) Wiese, L. von, *Allgemeine Soziologie*. Munich : Duncker and Humblot, 1924, i, pp. 309 ; 1929, ii, pp. 282.

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Hecker, J. F., *Russian Sociology*. London : Chapman and Hall, 1934. pp. 313.
Ogburn, W. F., and Goldenweiser, A. (ed.), *The Social Sciences and their Interrelations*. London : Allen and Unwin. pp. 506.
Les Sciences Sociales en France : Enseignment et Recherches. Centre d'Études de Politique Étrangère. Paris : Hatmann. pp. 379.
The Social Sciences : their Relations in Theory and Teaching. London : Le Play House, 1936. pp. 222.
Thurnwald, R. (ed.), *Soziologie von Heute*. Leipzig : Hirschfeld, 1932. pp. 138.

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