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JEREMY BENTHAM A COMPOSITE PORTRAIT

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PSYCHE

EDITORIAL

THE YEAR IN RETROSPECT

The year to which we have been subjected since the last issue of *Psyche* appeared, in April, 1932, has, as usual, had its compensations. It is true that in an international sense we live almost from week to week, but there is still no particular reason for supposing that we cannot get through 1933 without another World War. It is true that many international movements have been set back more than a century, that psychological research has suffered an eclipse, and that the difficulty of financing orthological publications has increased 100%—but the activities of which *Psyche* herself provides the chief record have nevertheless contrived at least to hold their own.

In the field of Orthology proper, the chief progress has been on the historical and documentary side. The Bentham Centenary Lecture delivered in University College, London, on June 2nd, 1932, was duly published last September under the title *Jeremy Bentham 1832—2032*, in the Psyche Miniatures, General Series. This was followed in October by *Bentham's Theory of Fictions* (in the International Library of Psychology), in justification of the claim that Bentham must in future be given a high, if not the highest, place among those who have realized the essentially verbal nature of current logic and metaphysics.

Hardly less germane to the subject, from a literary and analytic angle, is Dr. I. A. Richards *Mencius on the Mind*, a portion of which was printed in our issue of January, 1932. Lexicology itself has so far failed to develop any consistent theory of multiple definition; the Panoptic Method outlined in our Editorial of January, 1930 (Vol. X, No. 3) has still to be expanded for purposes other than those of Basic English; meanwhile, on another page, Dr. Richards attacks the problem from a new angle; though still with the Eastern imbroglio primarily in mind.

The Harmonious Cuckoo

For many years past The Orthological Institute has been investigating the Analogy of Sound and Colour, with special reference to the creation of a Notation for Colour and the improvement of the present system of musical notation. To the latter subject, which has also claimed the attention of Professor E. V. Huntington of Harvard, our contributor, Mr. C. L. T. Griffith, addressed himself some years ago—with results which now adorn the walls of the Institute ; and in this issue he puts forward a purely mathematical suggestion for the consideration of all who are interested in the laws of Harmony. Why are some intervals traditionally more pleasing to the ear than others ? The isolation of certain ratios is undoubted ; and since he wrote the article in question, Mr. Griffith has been further intrigued by the fact that the Cuckoo sings in intervals 9/8, 8/7, 7/6, 9/7, and 7/5, only the first of which is one of *our* musical intervals though they are clearly examples of Mr. Griffith's isolations. And who would say that this tiresome bird is unmusical in small doses?

An Age of Interpreters

The psychological basis of Harmony is hardly more obscure than that of Linguistic Ability. Though history abounds in legends of linguistic athletes—masters of fifty languages, mental retainers of a hundred—we are too often left in doubt as to the criteria of mastery. We know so well the modern linguist who " can talk every language under the sun "—provided no one is present who can check up over meticulously. But the Law Courts of to-day are an acid test, and it is in the Supreme Court of Judicature, London, that Mr. Salzedo (who was responsible for *Psyche's* latest publication, *Basic for Business*) has made his already international reputation. We welcome his first appearance in our columns, if only in the role of an armchair annalist. Interpreters are destined to play a great part in the counsels of the next few years ; and these notes by a master-interpreter are, we hope, only a prelude to further interpretative activity of more permanent value.

Law and the Modern Mind

In some respects, of course, law itself is amongst the most fruitful fields which await orthological clarification. Its complexity has hitherto baffled even the most ingenious verbal technicians—Bentham alone excepted. While these pages were passing through the press, it was our good fortune to secure a substantial portion of the well-annotated library of the late Mr. Justice McCardie, the acuity of whose judgments was no less remarkable than the range of his criminological inquisitiveness. It would not seem that the learned Judge had concerned himself very directly with the linguistic background of jurisprudence. The literature of legal

methodology was a Teutonic preserve until the recent efflorescence of logico-legal controversy in America; *Psyche* however, is gratified to note that her Benthamic by-products are effectively featured in the pivotal product of that controversy—*Law and the Modern Mind*, by Jerome Frank. We hope in future issues to make further comment on the stimulating achievement of Mr. Frank and his associates. Meanwhile we are happy to have secured a characteristic contribution from Professor Kocourek, of Chicago, whose independent approach to the central Benthamic problems of classification and nomenclature gives his work a special claim on the attention of academic jurists. If the modern legal mind fails to appreciate the significance of such a critique of Bentham's solution, the dawn of a new medievalism cannot be more distant than its apostles imagine.

Organismal Cerebration.

In October, 1926 (*Psyche*, Vol. VII, No. 2) we published a remarkable article entitled, "Baboons, Hypnosis, and Insanity", by Eugène Marais. The article was sent to us by a South African correspondent, and at that time we had no information as to the identity of its author—the accuracy of whose observations has recently been questioned by Mr. Zuckerman in his *Social Life of Monkeys*.

In publishing a further contribution by Mr. Marais on "The Termite Queen as the Brain of an Organism", we take the opportunity of quoting the following from a letter by Mr. William Spilhaus, of Wynberg, which accompanied it:—

> "Eugène Marais, our South African Fabre, commenced his career as journalist after he left College, and very soon distinguished himself so that he was entrusted with the Editorship of three papers in Pretoria. After that he went to Europe and studied first medicine and then law, and was admitted as advocate to the Supreme Court of the Union of South Africa; but he soon began to devote all his time to biological studies, with particular reference to Comparative Psychology. For many years his special attention was turned to Termites (the so-called White Ants); and it was he who first put forward the theory that the individual nest of the white ant was similar in all respects to the organism of an animal—worker and soldier ants resembling the red and white blood corpuscles and their fungus gardens the digestive organs, the Queen having the function of the brain.
>
> In his *Life of the White Ant* published in 1927, Maurice Maeterlinck gives a description of this curious fact in almost the same wording in which Eugène Marais had described it three years before. Though Marais distinctly states that he is merely compiling facts discovered by others, he fears he may nevertheless be accused of plagiarizing Maeterlinck. The two versions were given opposite to each other at the time in one of the

leading journals in Johannesburg. There cannot be any doubt whatever about Eugène Marais' priority.

Marais has published from time to time articles in the local press in the Afrikaans language, amongst others one solving the enigma (to which Maeterlinck refers) as to the moisture in the nest of the Termites. By very acute observations he discovered tunnels descending hundreds of feet into the ground through which day and night water is carried to the nest.

The importance of the present article will be found in the result of observations towards a solution of the remarkable psychological functions of the Soviet community within the Termite nest. Marais has definitely proved that the so-called ' body-guard ' forms part of the nervous system of the nest. When the members of this ' body-guard ' were not in their places the whole community was at a standstill. Unfortunately, he was unable on this occasion to determine for certain the action of the ' King ' because, as he writes in correspondence with me on the subject, when the disturbance happened there was such a general confusion, and the whole thing was so sudden, that exact observation was most difficult. He regrets very much that in this respect he could not make quite sure what part the ' King ' played in connection therewith. If his theory is correct that the chain of ' life guards ' carries the same function that the spinal cord does in the vertebrates, then the ' King ' quite clearly supplies the analogy of that important connecting link between the cord and the brain, the Medulla oblongata. The ' King's ' behaviour certainly seems to suggest such a link between the Queen and ' Life Guards ' physically as well as psychologically. He will now and then climb on to the body of the Queen somewhere about the middle, and then wander round the circle of ' Life Guards ', apparently touching each one in succession with his head. The Southern half he touches head on, while the Northern half of the circle whose heads are turned North away from the Queen, he touches behind. He does not use his antennae for this purpose because they are too short to use in ' ant talk '. (Both Queen and King, shortly after they have scooped out the little underground chamber in which they construct their first fungus garden, eat off their own antennae as far as their jaw can reach).

It is, of course, impossible to see what actually takes place when the ' King ' touches the ' guards ' in the manner I have mentioned, but it seems to me that it supplies an actual physical link between the Queen and the ' Life guards ' ; the latter never enter the Queen's cell and never come into physical contact with her while the cell is whole and conditions inside the cavity otherwise normal.

Marais writes that whether his theory is right or not, it is based on the *fact* that no work is carried on by the community while the circle of ' Life guards ' is disarranged or absent.

In the illustration of the Termite Queen's chamber, published by Sjostedt, the circle of the ' Life guards ' is not complete, but we do not know what at that exact time took place inside the chamber and in the nest. Marais leaves us

doubt about this and is quite certain about his theories regarding the organic unity of the Termite community and the psychological functions of the Queen. If a further opportunity offers he will try positively to prove what difference it will make when the ' King ' is removed—although in the open air this would be a most difficult matter. Even when all this has been made quite clear, it will remain an enigma how such a lump of liquid fat as the Queen is can act as brain in the complicated activities of the Termite nest ! "

When Marais wrote his article, he had not yet read anything about Professor Escherich's publications. The latter is surprised that ants, although historically much younger than Termites, have developed individually to a far greater extent. This seems to be explained by Marais' theory that the nest is a holistic differentiated organism.

BASIC CONFERENCE

From July 20th—27th, 1933, there will be a Conference on Basic English in New York. There will be a discussion of how best to make use of Basic as an international language for the countries of the Pacific.

Seven Basic representatives will get together for a week with a group of experts from countries on the Pacific and others who have taken a special interest in the different questions on the Agenda, under the Direction of Mr. E. C. Carter, Secretary of the American Council of the Institute of Pacific Relations. Among those going from Europe to take part in the Conference will be Miss L. W. Lockhart (who was responsible for *Word Economy* and *Carl and Anna* in Basic), Mr. A. P. Rossiter (late of the Imperial Naval College, Etajima, Japan), Miss Charlotte Tyler (Bryn Mawr), Dr. I. A. Richards of Magdalene College, Cambridge, and Mr. C. K. Ogden (Director of the Orthological Institute). Among those from Asia will be Liu Yu-Wan of the China Institute of Pacific Relations and Sabuyo Matsukata of the Japanese Council of the Institute.

Attention will be given to the work of Mr. F. J. Daniels (Otaru, Japan) on a system of using Basic for a new Japanese-English Dictionary ; and Dr. Richards will put forward his ideas for a Chinese-English Dictionary on the same lines. Dr. A. D. Sheffield of Wellesley College will make some suggestions for the use of Basic by international organizations, and Mr. Ogden will give an account of the position of Basic in different parts of the Far East. Details of the discussions will be sent to representatives of Basic in all countries before the end of September.

PREFACE TO A DICTIONARY

By I. A. RICHARDS, Litt.D.

It is the mark of an educated man to look for precision in each class of things just so far as the nature of the subject permits.

Nichomachean Ethics

This Preface is written a few years—but not I hope, more than a few years—before the Work at whose head a redaction of it should stand.

About forty years ago the original Editors of the *Oxford English Dictionary* could describe that part of the purpose of a dictionary which consists of giving *explanations* of words as being more advanced than any of the other purposes. This is true no longer; the other aims, historical, etymological, morphological, have been improved beyond comparison—in a large part through the genius and toil that went into the *N.E.D.* But the practice and theory of explaining the meaning of words have meanwhile advanced hardly at all—no doubt because so few have recognised how much they need to be advanced. Explanation is now that part of a dictionary's duties which is least well performed.

Consider what happens when we look up an important word, for example, *love*, in the *N.E.D.* We find (omitting obsolete uses and grammatical manipulations) as explanations of meanings the following:

1. That disposition or state of feeling with regard to a person which (arising from recognition of attractive qualities, from instincts of natural relationship, or from sympathy) manifests itself in solicitude for the welfare of the object, and usually also in delight in his presence and desire for his approval; warm affection, attachment. [Under which appears by mistake, 'Adjuring me be the loue of my contrie.']

b. Viewed as an abstract quality or principle.

c In particularised use: An instance of affection.

e (*Give*) *my love to* . . ., or *Love to* . . . : a formula of request that the person addressed will convey the expression of the speaker's or writer's affection to a third person.

2. In religious use, applied in an eminent sense to the paternal benevolence of God towards His children, to the affectionate devotion due to God from His creatures, and to the affection of one created being to another so far as it is prompted by the sense of their common relation to God.
[Under which appears the useful distinction between *love of complacency* which implies approval of qualities in the object, and *love of benevolence* which is bestowed irrespective of the character of the object].

3. Strong predilection, liking or fondness *for*, or devotion *to* (something).

4. That feeling of attachment which is based upon difference of sex; the affection which subsists between lover and sweetheart and is the normal basis of marriage.

b. As a motive in imaginative literature.

5. (With capital). The personification of sexual affection ; usu. masculine, and more or less identified with the Eros, Amor, or Cupid of classic mythology ; formerly sometimes feminine, and capable of being identified with Venus.

6. The animal instinct between the sexes, and its gratification.

7. Phrases, *a. For the love of. c. For love or money. d. In love with. e. Out of love with. f. To fall in love. g. To make love.*

8. In various proverbs.

9. A beloved person : *esp.* a sweetheart ; chiefly applied to a female person, but sometimes to a male. (Often used as a term of endearing address.)

b. A charming or delightful person or thing ; a 'duck.' *colloq.*

The rest of the article deals with the use of the word in Tennis, Gambling, Botany . . . and with combinations. As a verb, the only additions given to these meanings seem to be :—" In the U.S. a frequent vulgarism for *like* ", and " to take pleasure in the existence (of a virtue, a practice, a state of things) in oneself, in others, or in the world generally ".

Useful though some of these distinctions are, the treatment is not as helpful as it might be—to anyone who sees in his mind's eye Casanova, Dante, D. H. Lawrence, Tennyson, Stendhal, Werther, the Wife of Bath, St. Teresa, Desdemona, Cleopatra, and Evangeline . . . who imagines the many things *love* (with the words we must translate by *love*) has meant to people of different types, sexes, ages, to people of different races, civilizations, cultures, or to people in different periods of the same culture ; who recalls the different meanings it may have for the same person in different contexts, different moods or different phases in the development of one personality ; or who may have had serious occasion to ask himself what do *I* mean by *love* ?

To anyone who not only hopes to find the important distinctions between these meanings recorded, but wishes, further, to reflect upon and order these meanings, to follow their gradual and unobtrusive shifts, to form a coherent view of the whole range (or some part of the range) of the desires, feelings, attitudes, sentiments, activities . . . which are described with this word, and on occasion express themselves with it, existing dictionaries will seem still less adequate. The lists they give are clearly only rudimentary beginnings, almost grotesquely incomplete, and passing without transition from excessive and uninstructive generality to trivial particularity. The incompleteness is a less defect, however, than the absence of any system by which the relations of the various meanings to one another can be displayed.

I am, it is plain, being highly unfair to the Makers of Dictionaries, for whom I have a deep respect. " With feelings of reverence mingled with awe ! "—so Calverley answered when the Dean of his College asked him how he regarded the Decalogue. That Calverley did not at the moment recall what the Decalogue was makes the

success of his reply (*The Dean* "A very proper answer Mr. Calverley!") not a bad example of the power of literary tact. It would be unkind to inquire how often we are in Calverley's case—knowing less what the word means than what words it will go well with. Or how often we seek no more from the Dictionary than a hint towards extending our range in this sort of tact. The progress of intelligence in this matter is by the passage from tact to insight. But space, by itself, forbids that a dictionary which is treating the whole or a large part of a language should attempt more than 'highest common denominator' (a disastrous metaphor this, in definition) or *omnium gatherum* explanations, supplemented at best with a few technical specializations. These enable us to collect our meanings for analysis and comparison—an enormous service, but initial only. To give further explanations we must enter into and labour at the dissection of each group of meanings in a way that has not been regarded as the business of a lexicographer—and rightly, for it would be hardly compatible with the wide initial survey. But there is no conflict now between further analysis and the primary purposes of a dictionary, though I have been asking from them something which they are not designed to supply.

But surely there must be other works of reference which we could consult with profit? Let us try Baldwin's *Dictionary of Psychology and Philosophy*. The article on *love* is the work of two very distinguished psychologists to whom that study is greatly indebted. The only definition given reads as follows:—"Love is dispositional interest of an exclusive kind". Could anyone contrive a less helpful formula? Some people abhor tapioca and only tapioca among milk puddings. By this definition they become in love with it! The rest of the article, I am afraid, does less than nothing to redeem this disaster.

The condition of the dictionaries as regards *love* is not worse than with other important words. It is only perhaps more generally evident because more people may have reflected carefully about *love*. In preparing this new attempt the choice of the words to be treated has been guided by three simple principles. (1) To chose words which have to-day a great number of distinguishable meanings. (2) To chose those for which widespread unnoticed confusions between their meanings seems most likely to have unfortunate consequences. (3) To chose those which are most useful in the explanation of other words.

These principles we have found to work in a remarkable accord. The old philosophic maxim, "The more important the doctrine, the more ambiguous" has its analogue, if not indeed its root, in lexicology. The causes for this extensive and varied wandering of our

most indispensable words will be a profitable matter for study when the evidence for it has been further collected and arranged.

A narrow restriction in the number of words dealt with made its advantages felt early—not merely by reducing the formidable, indeed all but paralysing, scope of the undertaking. The restriction acts as a frame, which by excluding some possibilities causes others to be more thoroughly and more designedly developed. Within a list of 100 words there is room both for the chief groups of the ambiguous words which we use in defining other words (the *truth* group, the *cause* group, the *meaning* group, the *attribute* group and the *experience* group) and for words of varied types which in more special fields of human activity are known to give exceptional trouble (*love, nationality, natural, democracy, religion, liberty, value, poetry, personality, instinct, belief* . . .) Room has also been found for a number of words whose multiplicities are parallel with those of words which receive fuller treatment. Nothing is more remarkable in this undertaking than the way in which a Multiple Definition of one set of words facilitates the detection of the multiplicities of another set. It is as though the types of possible ramification of meanings were limited. There is some hope that, with further work, theories of ramification may be able to be propounded and controlled. With this, a notation for ambiguities would be in sight.

The urgency of the need for new machinery to exhibit and record meanings will not be denied by any one who combines a taste for analysis with an interest in the state of the world. This is the unparalleled moment of the meeting and mixing of cultures. In China, India, Russia, America, and in Europe too, the best minds are everywhere fighting their way to clarity of mind and will through entirely avoidable labyrinths of confusion. There is no one who is working seriously towards the increase of intelligence in himself or his fellows who does not waste a great part of his energy from the lack of a systematic and perspicuous record of necessary and extant distinctions. This lack is so evident that only a general opinion that to supply it is impossible can explain it. Such an opinion has not taken account of our recent gains and present resources. What was perhaps too difficult has become to-day a matter mainly of industry, acumen, and co-operation,—just in time to meet the enormous increase in the need for a new lexicological apparatus that mechanical communications have brought about. A university in China is a good place in which to realize what the oncoming world-situation will entail. So would be an Indian university—where we offer our students Anglo-Saxon and Gothic as a preparation for what is before them! But any place when active minds are trying to think clearly will do as well. They have to deal with more

ideas, more varied and from more varied traditions; ideas more dependent upon the words which represent them and less supported by experience and the social milieu in which the thinkers live. And they must for the most part receive them from and handle them with a language which is not their own, or after the distortions of translation into languages for which these ideas are aliens. Even after the vast and merciful lightening of the task which Basic English will effect it will be heavy enough. With whatever admiration we regard those who succeed, an equal obligation to improve the agents of transmission is imposed upon us. If we were to change places with them and become learners rather than teachers (as in time perhaps we shall) we should feel this more strongly. We ourselves are the product of several mixtures of culture—to the crudeness of which mixtures the richness of our confusions may be due. We are participating now in a greater mixture and we can neither transmit the best that we have achieved nor trace our own past to preserve and clarify our heritage without better instruments of distinction and record than we possess. And to come nearer home, it can hardly be doubted that even our best schools have both a harder task and less success than the best schools of 300 years ago. And the American school has a still harder task. To meet it we must avail ourselves of all the devices that intellectual method can provide.

Among them must be a dictionary technique deriving from an explicit theory of the comparison of meanings. The methods of this theory come in part from logic and psychology. Equally it may be said that its development is a main part of the aim of logic and psychology and that nowhere more than in these subjects is such a theory needed. But grammar, preparing now for a return to its once exalted position, and semasiology, that *Grenzwissenschaft* which spreads so far into logic and psychology as into philology, semantics and literary criticism, have more to contribute. For they draw, as no other studies can, from sources of knowledge which though widespread, have been hitherto subdued to immediate practical purposes without development into science. We recognize to-day the data and the techniques supplied by the manual crafts to physical science. It is time that another craft, that of literature, also yielded its facts and methods to investigation and development. By knowing how to talk, and how to understand—to some degree—what is said to us, we possess immense stores of most important information, but only at present in the form of skill. We hourly use this skill to settle, in practice, problems which, in theory, would be of the utmost difficulty—discriminating immediately between meanings with a nicety that the logician endeavours, as yet vainly, to follow. Were even a modicum of this skill raised to explicit

systematic theoretical insight into language, our whole intellectual outlook would be changed. We are like billiard champions in a world that has never hit upon the notions of friction, rotation, impact, mass, force or elasticity. We have only to observe and reflect upon our skill carefully enough for a new science of language to come into being.

Anyone who has watched logicians or psychologists with a sufficiently detached interest will have been surprised to notice how often they must openly rely upon this knowledge which does not belong officially to these subjects. ' Common, correct usage of language ' and ' what we all say ' form a supporting medium within which they work and without which they would not be able to move a step. It is the aim of Semasiology to bring this linguistic skill under systematic inquiry.

Though at last free from the accidental limitations that Aristotle's treatment left upon it, Logic is still, through the recent dominance of mathematicians, preoccupied with its problems as a calculus. Its methods of analysis are still too much confined to those immediately necessary for preserving a formal deductive system from confusion. It still neglects work which for wider purposes is essential. For example, in the most recent authoritative text-book, Miss Stebbing's *A Modern Introduction to Logic*, p. 51, we find :

" In a proposition we can distinguish between the *constituents* and *the form*. This distinction is easy to see but difficult to define. The simplest method is to start by considering some examples of propositions which either have the same form or the same constituents.

Consider the set of propositions :

(1) Mussolini is ambitious.
(2) Baldwin is mortal.
(3) Voltaire is witty.
(4) Leo XIII is old.

It is obvious that these four propositions are all of the same form ".

For the purposes of a calculus such a treatment is perhaps sufficient. But to a closer analysis—such as must be undertaken in any attempt to explain the meaning of these adjectives—it very soon becomes clear that the *forms* as well as the constituents of these propositions are very different. We have only to write out the first partially adequate expansions of them that come to mind to see this :

1. *Mussolini is ambitious* may = M. desires and attempts to do great things.
2. *Baldwin is mortal* may = B. will die sometime.
3. *Voltaire is witty* may = V.'s remarks have a special effect on certain of his readers.
4. *Leo XIII is old* may = Leo XIII's age divided by the average age is a large fraction.

It is undeniable that with these symbolic expansions—which, though evidently inadequate, are, at least, the kinds of expansions that are required if we are to show the meanings of the adjectives—these four

propositions appear as relational propositions of quite different forms. Their *prima facie* similarity of form is merely a linguistic, syntactic, similarity—a grammatical not a logical matter, to use a distinction which has received evaluable discussion from Russell, Wittgenstein, Miss Stebbing herself,[1] and others, chiefly in instances connected with calculation.

I take this example only to show that the Logic which is required for a theory of the comparison of meanings must emancipate itself still further from the less valuable customs of traditional logic. It must follow, with some enlargements of purpose, the course which has led in the last 50 years to such splendid advances.

The psychology needed has a parallel self-enlargement to effect. At present, a number of growing systems of concepts dispute the field—physiological, behaviouristic, traditional introspective, psycho analytical, metaphysical, theological. It is extremely difficult at the moment, for any one, who—not having contracted an unfortunate alliance with some one of these systems—wishes to survey some large part of the field, to discover in what terms, with what concepts, he is attempting to do so. The same words are used by people of different parties with very different definitions : *inhibition* which has for a physiologist, a behaviourist, a psychoanalyst, quite different meanings, is a fair example.

What is most needed in psychology just now is a systematic clearing up of these confusions. An unflagging recognition of this fact that almost all the words in the psychological vocabularies have this multiplicity of meanings, and a systematic (not sporadic or *ad hoc*) attempt to display them must precede that synthesis which we hope will be one of the achievements of the next century. Meanwhile this systematic attempt must take its tools from present day psychology. Without them it is paralysed. It will borrow them eclectically and provisionally being careful to depend upon them as little as it may and to give as much explicit analysis to its borrowed concepts as it can contrive.

A first set of borrowings seems to be required for the definition of the language-functions. Nearly every utterance of civilized man works simultaneously in a number of ways, and to describe these ways we must use psychological notions. A rough indication of them in non-technical language is not hard to give. Thus—neglecting some subordinate functions that are only occasionally of importance—we may call them Sense, Feeling, Tone and Intention, and say that each utterance may be considered (1) to say something, (2) to express some feeling towards what is said, (3) to express some

[1] *E.g., loc. cit.* p. 160.

attitude towards those to whom it is said, (4) to purpose some result. But, if we are to use these functions with confidence and precision in the analysis and comparison of utterances, we need more exact definitions than these. Especially, when these functions are very closely allied, as is usually the case with Sense and Feeling. We need explicit theories of what it is to say something and what it is to express a feeling and of how these activities, separable though they are in some cases, may in other cases coincide—of all the ways in which the two may be related.

This requirement may seem at first sight to put a desperate obstacle in our way. If, before we can set to work, we must have adequate theories of thought and feeling, their differences and their connections, must we not wait till the end of the world before we begin? But the discouragement that comes as we realize the size of the problem wanes as we notice the scale of the contributions that humanity has already made towards a solution. The quantity of the relevant matter is indeed the chief embarrassment. The task is not so much to invent new hypothesis as to sort out those which are already available and test them on the data that literature so conveniently and abundantly provides.

Our situation with *thought* and *feeling* is typical. As we grow more aware of the number of distinct meanings each may carry and of the pivotal position of these meanings in our intellectual operations, a blankness tends to come over the mind. If each can mean almost anything, then neither seems of any use. We set them aside, perhaps, in favour of other words with a less variety of definitions—only to find the same multiplicity of meaning growing upon these. The remedy is not to condemn words for this slipperiness but to recognize it as a chief and most significant characteristic of language, and to exploit it. Systematic lists—such as this Dictionary aspires to—of the meanings of *thought* and *feeling* would restart psychology at the point from which it would be most likely to make progress. Instead of one conception of thought and one of feeling we should have at our disposal many—with a great increase in our powers of experiment and analysis.

The way to such lists is not short or easy. Its first step is to make provisional definitions for the language functions with a full awareness that, so far as these definitions are useful, other definitions will later be found that are more useful. We shall constantly be in this situation, using words of dangerous multiplicity—*represent*, for example—provisionally, with a view to later treatment that will make clear what we have done. It will be noticed that these definitions rely more on common-sense familiarity with our general linguistic practice, than on any kind of technical psychology or

logic. The initial distinctions call for no special knowledge, only for critical and reflective awareness of how we use our words.

The point in the definition of the language functions where exactness is most glaringly necessary concerns the word *say* in the above formulation. When an utterance says something, what does it do?

1. It may represent some state of affairs.
2. It may in addition assert that the state of affairs is so (i.e. that the representation is true).
3. It may, while representing (with or without assertion) one state of affairs, simultaneously and thereby represent (in a slightly different sense) another (again, with or without assertion).

Represent, state of affairs, assert and the phrase *is true* must now be explained. The task is troublesome, but no theory of the comparison of meanings can neglect it. Nor can any serious critic of literature. The confusions that obscure these matters have an importance second to no others in the history of cultures.

An utterance is a set of signs and only as such does it represent anything. The detail of the analysis of how a sign represents whatever it is a sign of is intricate and in some respects controversial. It is discussed, with references to the literature of the subject, in *The Meaning of Meaning*. A general formula sufficient for our purposes can, however, be made—wide enough to allow most schools of psychology and epistemology to fill in their own detailed versions behind it without their differences affecting many of the uses we shall make of it.

A sign, let us say (Sense 1), works by being a member of a certain kind of recurring interpretative context in the mind—let us write it *a b c q*. When *abc* . . . recurs without *q*—such is the fortunate and overwhelmingly important characteristic of these interpretative contexts—the effect is in certain respects as though *q* also had recurred. And *q*, then, is what *a* (the sign) is of, what it signifies, or represents. Anyone reflecting upon how we learn to speak will find examples to back this formula, but all our life is a string of examples of it.

Such a sign *a* is ' of ' *any q*—it is ' of ' anything like the *q*'s which were formerly in the recurrent interpretative context with it. In other words all signs are general in their meaning. To get particularity (disregarding demonstratives and ' strictly proper names ') we have to combine a number of signs together so that they narrow down what they are jointly ' of ' to leave only a single particular to satisfy them.

This in schematic outline is how a sign signifies, how an utterance represents a state of affairs. Now what does *state of affairs*

here represent? What is the status of the *q*'s that are thus represented?

Let us take as an example the utterance, "3 feet 6 inches!" made by a man who has just measured the width of a cupboard. We shall be tempted to say that the state of affairs the utterance represents is just the width of the cupboard (i.e. that it is 3 feet 6 inches wide). But let us suppose that he has in fact measured it wrongly and that it is actually 3 feet 8 inches wide. What his utterance then represents is clearly not the width of the cupboard but something else. Just what this is will depend upon the mistakes he has made, upon the interpretative contexts that have led him to his utterance and these, since counting, e.g., is involved, will be highly intricate.

This puzzle, which is unavoidable for any theory of signs that is stated briefly in ordinary language, depends upon the ambiguities of *width of the cupboard*, *state of affairs* and *represent*. It is sketched here because any person reflecting upon the matter must encounter it, and because a mention of it helps to explain the question about the status of the *q*'s and the answer that now follows.

An utterance that is true and an utterance that is false cannot—in one sense of *represent*—represent the same state of affairs. In another sense of *represent*, they may both represent it, the one rightly, perhaps, the other wrongly. In yet a third sense, each will represent something that we will agree to call 'the supposed state of affairs'—here the supposed width of the cupboard or, the supposition of the cupboard as having a certain width. [Allowing for differences in the way in which the analysis is made, I take this to be nearly equivalent to Gomperz' *ausgesagte Sachverhalt*]. This supposition will be, theoretically, identifiable without inquiry as to whether the utterance is true or not—whether it has or has not a further, more distant referent corresponding to the supposition. Now this third sense of *represent* is the one which, for the purposes of a dictionary—though not necessarily for those of psychology or epistemology—is the most important. It allows us to say that an utterance represents a supposed state of affairs of which we may ask "Does this supposed state of affairs correspond with an actual state of affairs?"—in other words, "Is the utterance true?"—and "How does it compare with other supposed states of affairs which other utterances represent?" And this last is the question with which a dictionary is concerned.

The intricate interlocking ambiguities of which we become aware through reflection upon such words as *represent*, *means*, *stands for*, *conveys*, *expresses*—together with the corresponding shifts in the nature or status of *what is represented*, *meant* etc.—have been the

main obstacle, through the centuries, to linguistic analysis. What opportunities for fruitless controversy these shifts afford will need no demonstration. The history of epistemology is largely their history. But they can to-day—now that interest has shifted from results to technique—be faced with some confidence in our power to detect and control them.

We can now pass from the first to the second listed sense of *say*—from mere representation to representation accompanied by assertion. (Cf. " I didn't say it was so, I only mentioned it ".) What is the difference between them? The danger here is shown in the form of this question; it is that we may attempt to settle it without first awakening to the ambiguities of the problem, or to the immense differences in the nature of what may be meant by *assertion* as we pass from one instance to another, from poetry to physics and again to psychology, or from one people or one age to another. We must also consider the purposes for which *we* need to distinguish asserted from unasserted representation. They are not the same for a theory of inference as for a theory of comparisons. For our purposes here it seems best to regard assertion as belonging not to Sense (function 1) but to Feeling (function 2). As regards Sense only, " He went " and " It is true that he went " usually represent the same state of affairs.[1] As regards Feeling, " It is true that he went ", " I wholeheartedly believe that he went ", " He *went* I tell you " and " He really did go " may be utterances with exactly the same function. In addition to representing the state of affairs (" He went ") they express an affective-volitional attitude towards it, an attitude that, following Bain and William James, we can describe as " a readiness to behave as though it were so ".

The importance of this problem comes about, as the examples show, through the multiplicity of the meanings of *true*—which is

[1] But they may represent two states of affairs such that the second (" It is true that he went ") includes the first (" He went "—the supposed state of affairs) with what it corresponds to. The sense of *represent* might or might not be the same for the two states of affairs. For those holding other theories of truth other differences in what the two utterances represent (and how they represent them) would occur. The other theories would be relevant contexts in their interpretations. Orthodox modern logicians would say that the two utterances express equivalent propositions, or that they are alternative verbal forms of the same proposition. I avoid, here, the word *proposition*, whenever possible, since the logicians who use it most seem so unwittingly at variance with one another (and with themselves) as to what it stands for. Thus Miss Stebbing, *loc. cit.*, while " precisely defining " a proposition as " anything that is believed, disbelieved, doubted, or supposed " (p. 33) goes on to talk of a proposition as " asserting a relation between two or more constituents " (p. 38) *and* as containing, if their proper names were in the statement, such things as Mussolini, or a Church, as constituents (see quotation above p. 51, and p. 140). Such curious play with the word is so frequent that one is tempted to think *proposition* a kind of Hand of Glory or skeleton-in-the-cupboard key for modern logic!

both ambiguous (has sense variations) and has independent variation under the other language-functions. So many important words that a Dictionary must treat of (*e.g. Knowledge, Real, Belief*) share a pattern of vagaries with *true* that a point at which the definition of the language-functions seemed in danger of settling too much has called for a special explanation and warning.

We can now proceed to less abstruse matters with the third of the senses of *say*. This covers those utterances for which what is said is not represented by the utterance, and has to be reached by conjecture from what is. The two main branches are aposiopesis and metaphor, taken at their widest. More of our meanings are handled in this way that lexicologists would as a rule care to admit. Among them are many of our most important meanings, those which, except to genius, border on the unutterable. But it is the virtue of systematic technique to follow on foot the flights of genius. A dictionary need not be merely an instrument of consolidation, it has pioneering rights also, and it would be fainthearted to acquiesce in the view that any possible meaning is unutterable or any utterance insusceptible of analysis. What is required, however, to support enterprise here is an improved technique.

It is needed also for the simpler undertaking of treating extensions and transferences from the meanings of more routine words. Let us begin with an example in which both aposiopesis (or " and I leave that to you ") and metaphor can be examined.

Arcadia, night, a cloud, Pan and the Moon

Here the first-order Sense of the line is exhausted with the presentation of these five items. But together these serve—and this is why Browning used them—as signs for a state of affairs not mentioned, the subject of a piece of Olympian gossip. What is presented in the utterance is incomplete. But it is incomplete in the fashion in which signs are always incomplete parts of contexts ; moreover the filling in of the absent members is guided by yet other contexts that we speak of as " our general literary experience ", " our knowledge of the author, of his period, of tradition, of a mythology ", etc. Under the urge of the other language-functions, this further step of interpretation, given the rest of the poem, is easy. So far we have aposiopesis. But now, if we care to take Pan and the Moon as personifications of natural or moral forces, metaphor begins—in the extreme form that we call allegory. If we cared, further, to take *Arcadia, night* and *a cloud* metaphorically, the result could be the representation of a state of affairs for which an equivalent representation in non-metaphoric language might be a dissertation on the philosophies of Rousseau and D. H. Lawrence. Poets evidently differ in the degree to which they allow

invite and require us to indulge in metaphoric interpretation of their words—in the width and variety of the interpretative contexts we must bring into action. But so do prose writers (as the articles, e.g., on *love, poetry, knowledge, nationality* must recognize) though on a smaller scale. The reason for considering poetic technique here is that it brings into greater evidence the distinctions necessary in the analysis of prose.

Metaphors in general divide into two types:

A. *Logical* metaphors, where the state of affairs represented by the normal use of the borrowed word is similar to or has some other direct relation to the state of affairs represented by the actual (or metaphoric) use.

B. *Emotive*, where a common attitude on the part of the user (Function 2) towards the two states of affairs, or an attitude towards the hearer (Function 3, e.g. " My Pet ! ") or an intention that the hearer shall behave as though the two states of affairs were e.g. alike (Function 4) is the ground of the shift. Feeling, Tone and Intention can and often do employ logical metaphor, but they sometimes use metaphors for which no independent logical ground can be made out. Logical metaphors are reducible; a statement of the relation between the states of affairs is theoretically possible which may be substituted for the transferred word. E.g., for *the leg of the chair* we may write " the part which goes down to the ground from the body of the chair and supports it ". So far as the metaphor is purely logical there will be no loss in this reduction. So far as it is also emotive, its efficacy is likely to suffer.

It seems probable that more of our metaphorical language is irreducible—not susceptible of explanation by analysis and substitution—than we suppose. This, however, only the outcome of pertinacious attempts can show. The following is an example upon which the reader may test the distinctions outlined above: " The analogy of light has been used to illustrate and elucidate if I may say so, the theology of faith. In much the same manner the analogy of water has been of service to the science of electricity " (from S. J. Brown, *The World of Imagery*). How far is there a similarity between light and faith comparable to that between the flow of water and an electrical ' current ' ? In considering explanation by reduction we have especially to keep in mind the process that is admirably discussed by Gustaf Stern in his *Meaning and Change of Meaning*[1] under the heading of Adequation. When the metaphoric use has become established, the word, in its new context, may become independent of those relations between or towards states of affairs which originally occasioned the shift. Or, if there were no

[1] See review in this number.

such relations, it may acquire a new Sense through the new context. Thus a word which has passed through an irreducible metaphor need not thereby become without Sense.

Normally all words have Sense, as we have defined it above, they represent or assist in representing states of affairs. But they often take their Sense from or through other language functions which are employing them. Thus *beautiful* and *poetry* on most occasions have a Sense which comes to them from the Feeling or Intention they express. As regard Sense, " X is poetry " then equals " X is a kind of thing towards which such and such feelings are felt ", or " X is all right for girls at school ". Such words may and usually do have other Senses (on the same or other occasions) but it is important to recognize how many of the Senses of our words have this origin. *They are translations from the other functions of langugage.* It is for this reason chiefly that, although a dictionary is primarily concerned with the Senses of words, it is necessary in defining them to pay close attention to the other functions also. The phrase ' the equality of men ' provides an excellent example. " This medieval notion of equality is by no means a manifestation of the spirit of revolt. It does not owe its origin to radical reformers. In quoting the text of John Ball, who preached the revolt of 1381, ' When Adam delved and Eve span, who was then the gentleman ? ' one is inclined to fancy that the nobles must have trembled on hearing it. But, in fact, it was the nobility themselves who for a long time had been repeating this ancient theme. The two ideas of the equality of man and of the nature of true nobility were commonplaces of courteous literature, just as they were in the salons of the ' ancient régime ' . . . The notion of equality had been borrowed by the Fathers of the Church from Cicero and Seneca . . . it had been repeated in all keys, but an actual social purport was not attached to it. It was a moral sentence, nothing more ". (Huizinga, *The Waning of the Middle Ages*, p. 53). The fashion in which the ' effects intended ' (Function 4) may enter into and transform the Sense could hardly be better shown.

If language is, as we suppose, originally emotive throughout, and if this process, translation of the other functions into Sense, is, as seems likely, the chief method by which it has grown in subtlety and served the cause of increasing intelligence, the attempt made in this dictionary is only a reflective continuance of what has been largely unwitting and immediate. There are some, perhaps, who will condemn it for that reason as pernicious if not vain, in the interests of human spontaneity and a muddled doctrine of poetry. Such fears are as empty as the opinions they derive from. Though poetry employs fusions of ideas, fusion is hardly the same

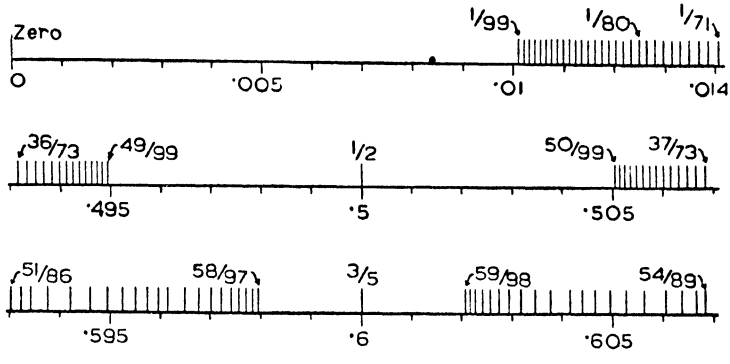
thing as confusion; separation for one purpose does not preclude combination for another; the great ages of poetry have been ages of intellectual analysis also. To those for whom analysis is in itself a fulfilment and a delight the undertaking undeniably extends its invitation. A wide cooperation only will be effective, but even a slight advance will repay the trouble entailed.

An objection will perhaps be felt on the ground that the scope of the venture appears to be infinite, and that something near to omniscience would be required for its prosecution. It is easy to substitute for the project another which would be daunting. To take useful steps in this matter, however, it is not necessary either to attempt to carry the history of philosophy in one's head or to 'solve' any fundamental questions. We are attempting only a partial survey made with such provisional working conventions as show themselves in practice to be useful. We are not attempting to place the theory of definition on a new and incorrigible metaphysical foundation.

" Je vous permets de traiter de fou tout homme qui viendra vous dire qu'il a fait une nouvelle découverte en métaphysique ". The new formulations made possible may not discover new views; they may as much suggest that the doctrines that men have yet thought of are fewer than we suppose. But they will give us a new freedom in our approach to the great figures. Aristotle, Augustine, Aquinas, William of Ockham, Boehme, Blake . . . they pass before us under the contrasts of the world as it should be; as it might be; as it must be; as it is. They are and they are not us—these phantoms of our possible being. Behind and apart from all the changing interpretations—views, opinions, formulas, beliefs—we are. Over against us and in us is also something which as we shift our terms we can and cannot know. But, of the shifting of the terms we can increase our knowledge, with which, if we may, to proceed further.

THE 'ISOLATION' OF THE RATIOS OF MUSICAL INTERVALS

By C. L. T. GRIFFITH



Each tick above the horizontal line represents one of the 3003 fractions between 0 and 1, having denominators less than 100. The ticks are plotted in their proper places shown by the decimal scale underneath. The diagram shows the large, vacant intervals on each side of the ratios 1 2 (OCTAVE) and 3 5 (MAJOR SIXTH)

A few months ago a new method of extracting square and cube roots was published by Professor Boys, F.R.S., in the use of which it is desirable to start with a simple fractional approximation to the root. The writer calculated the decimal values of all the fractions between zero and unity which have denominators less than 100. When the fractions and their decimal equivalents had been tabulated in ascending order of magnitude the work in hand was completed; but the writer, being an engineer and computer and not a mathematician, wanted to see what the arrangement of these fractions *looked* like. It was noticed that the differences between successive fractions were very irregular. There were 3003 fractions between zero and unity, and for every one below $\frac{1}{2}$ there is a corresponding fraction just as much above $\frac{1}{2}$. The 1502 fractions between zero and $\frac{1}{2}$ were plotted on a strip of paper 5 meters long.

The completed plot had an almost startling appearance. All the simpler fractions such as 1/2, 1/3, 1/4, 1/5, 2/5 etc. stood out unmistakably because they were isolated and had no other fractions near them. If the breadth of the gap, in the middle of which one of these simple fractions is found, be called the 'isolation' of the fraction, it was seen that the smaller the denominator of the

fraction, the larger was the isolation. Had the plot of the series been continued to include 1, 2, 3, etc. it would have been seen that the integers were still more isolated than any of the fractions, proper or improper. Perhaps this illustrates the statement of a German mathematician that " God made the integers, and man made the fractions ". The integers stand out in lordly isolation from the common herd.

But these simple fractions 1 : 2, 2 : 3, etc., are the ideal ratios of the rates of the vibrations of the components of the harmonious chords. No interval is more clearly appreciated by the ear than the octave, in which the lower tone has half the number of vibrations of the upper tone, and no ' proper ' fraction is so much ' isolated ' as 1/2. Next to the octave the ' fifth ' is particularly clear, and the ratio of its components, 3 : 5 is another most outstanding example of isolation. This, by the way, is the invariable note of every one of the seventy two possible scales in Indian music. Even with the more complicated intervals, such as augmented fourths (ratio 18/25) the isolation of the fraction is obvious on the diagram.

It should be explained that the word ' simple ' as used herein when applied to fractions, only means that the denominator is a small number, and does not have the specialized meaning given to the word by teachers of arithmetic. Such a fraction as thirty-seven fiftyoneths is considered to be a far-from-simple fraction, and the corresponding interval in music would probably sound discordant.

This fact of the isolation of the simple ratios, which occur in harmony, is perhaps worthy of attention of Physiologists and Psychologists who are interested in ' how we hear ' from their respective points of view. The writer's somewhat crude suggestion is that we notice and approve of chords when their elements are related by some ' simple ' ratio. Then the chord stands clear and distinct, and cannot be confused with any other ratio for the reason that there *is no other* ratio having nearly the same value.

It seems to be a fact that neither the ear nor the ultimate hearer is in any way concerned with ' phase '. If two tuning forks are vibrating at the same rate there is no difference in the pitch of the combined sound when the prongs are vibrating together and when one lags a bit behind the other. (There may be a difference in loudness.) If one fork is exactly a quarter phase behind the other, we certainly do not hear the octave as might be expected. Again, a single high note on a whistle may have a wave length of about a foot, which is roughly twice the distance between the ears. It makes no difference to the sound whether we face the whistle, and the pressure impulses hit the two ears simultaneously, or we stand sideways to the whistle and one ear receives the air pressure impacts

midway between the times when the other ear is affected. The hearer does not make an octave even though he or she is receiving twice the number of electrical or chemical (or other) messages per second.

It seem as if the hearer is like a person listening in with a very unselective set, having complete reception from all stations transmitting, and always knows which stations are transmitting. More, he is aware when one station is sending a stronger or weaker wave than the other. So the hearer in or ana or kata to the brain knows when each filament of the ear is vibrating, and how strongly each. He can say, "Ah! 60% from No. 256 and 40% from No. 409⅜. A perfect minor sixth, how soothing!" Later he hears 35% from No. 256 and 65% from No. 401¾ and says, "What in the world ratio is that? Flat, by Jove. Why don't they throttle her?"

It is necessary to say that the series of fractions described have been known for about the last hundred years as "Farey's series" and are used by pure mathematicians in connection with the Theory of Functions as applied to Number Theory, also that (when pointed out) it is obvious that the 'simpler' fractions occur in large gaps. But it does not seem to be the case that any one has noticed the gaps or has considered whether they have anything to tell about the Theory of Hearing.[1]

[1] The diagram at the head of this article is an extract from the complete diagram referred to in the article. If any reader wishes to get a copy of the original, size 30" by 18", they can obtain one from the Author at 1, Napier Road, London, W.14, for the cost of printing and postage, 2/-. Copies of the tabulated values of these fractions are also obtainable.

ON INTERPRETERS

By S. L. SALZEDO

In the remarks which here follow, the word ' interpreter ' is used in a purely linguistic sense, and in the further restricted meaning of one who provides an oral rendering of an equally oral manifestation.

The useful distinction thus made between one who renders the spoken word by the spoken word, and the translator, who deals at any rate with a written original, does not exist in the Latin parent term, ' interpres ', which covers both. It is found, however, in all the languages of Latin origin, and those of Germanic stock. Slavonic tongues have the one term only.

As to the antiquity of interpreters as an institution there can be no question. Even assuming, at the origin, an identity of speech over a wide area (an assumption for which there is no adequate scientific warranty), group differentiation, i.e. the formation of dialects and finally distinct languages would, in the absence of fixation by writing, proceed apace. Failing amalgamation by conquest, there could be no cessation of this process until each self-sufficient community, however small, had a distinct language of its own, when further change would be stayed by the requirements of daily intelligibility in intercourse. Thus in parts of Africa, when first explored, a different ' kingdom ', with totally different language from its neighbours, was encountered every few miles.

Interpreters therefore preceded translators by the length of priority of speech over writing, that is by hundreds of thousands of years (as compared with some six thousand).

Considering the importance and antiquity of their function however, historical references to them are few and scanty.

The Bible of course mentions them. Joseph, for his own purposes, requisitioned an interpretational assistance which he did not need, when holding converse with his brothers. Any foreign witnesses in the Courts therefore, who adopt the same course (as to which they do not take the interpreter into their confidence) can at least plead a Biblical precedent.

Homer is omissive. Greeks and Trojans harangue each other with no hint of a call for interpretative aid.

The Greek translation of Hanno's Periplus (about 500 B.C.) contains an illustration perhaps of resourcefulness in a difficulty. The Carthaginian explorers, at the terminal point of the outward

voyage, discovered, on an island, a wild people " most of whom were women with hairy bodies. These the interpreters[1] called ' Gorillas ' ' (*has hoi hermenees ekaloun gorillas*).

The interpreters who thus, in a country to which they were complete strangers, furnished a ready name for the occasion, (incidentally endowing European languages with a word) were it would seem, indulging a lively fancy, not wholly uninfluenced perhaps by the singular absence of benignity in the Carthaginian view of professional shortcomings.

Among references by Herodotus, one (IV. 24) is remarkable as showing that the inevitable differentiation of language among unlettered peoples was not confined to Africa. Business with the Argippei (an uncivilised people in North Europe), required, he states, seven interpreters, for seven different languages.

Xenophon introduces interpreters some twelve times, two by name, Pigres, official interpreter to Cyrus, who passes out of the story with the latter, and Abrozelmes, who serves the king of Thrace. It is extremely rare for the functionary to be thus immortalised. True Caesar (De Bello Gallico, I, 19), mentions C. Valerius Priscus, (whom he employs " propter linguae Gallicae scientiam ",) but only because he is a man of high station. The ' daily interpreters ' have just been sent away, unnamed.

No doubt, prior to the Roman hegemony, Greek, becoming the ' lingua franca ' among the peoples of the Mediterranean, rendered linguistic mediators superfluous. Thus it is said of Hannibal that he spoke Greek " fluently though not faultlessly " (*non optime Graece, sed tamen libere*, says a Roman writer)[2] Some such medium was indispensable, to bridge the impassable gulf between Carthaginian and Etruscan, for example.

The Romans, however, must have been much embarrassed by linguistic difficulties in their conquests, and it would be postulating too much of interpreters to assume that their intervention was not occasionally fraught with mishap, or even disaster. Yet writers are silent and there is no counterpart among interpreters to the

[1] It is curious to observe that the Carthaginian (Phoenician) word for ' interpreter ' (melits) was the same as that used by the writer in Genesis previously mentioned, as is evident from the Phoenician epitaph of Reshefyaton, *melits hakirayim* (interpreter to the (Royal) Court), dating from the 4th century B.C., now in the Louvre Museum. Apparently, at that early date the institution of Court interpreter was pretty general in the region of Asia Minor, and indeed necessary, as a glance at the ancient map of the region will show.

[2] The occasion seems amusing enough : Hannibal, reaching Ephesus from Carthage, accepted an invitation to attend a disquisition by an aged philosopher on " How to manage an Army ". At the close, the delighted audience expectantly sought H.'s opinion. " Well ", said he, " I have heard quite a number of crazy old men in my time, but never such a doddering old idiot as this one ".

guides who, having said in their hearts : *the Semite shall not rule the earth*—led Hasdrubal back to his ruin at the Metaurus where it was unfordable.

After the Roman world conquest, Latinisation of course proceeded apace, and interpreters ceased to be in request for a time.

How rapidly such a process can take place is shown by the immense speed with which Russification proceeded, in the half-century preceding the War.

True it is that the Tartar hucksterer in St. Petersburg spoke a very ungrammatical Russian, with supreme indifference to case-endings, and in Dostoievsky, Germans, congenitally impervious to declensional subtleties, after many years' residence in Russia, still blithely use the nominative for the accusative or dative, etc., but they remain perfectly intelligible.

The same was no doubt the case with Latin. If Tacitus had imported his written style into his conversation, the same fortune would have been his as seemingly, attended Socrates, of whom it has been said that the moment his portly figure was seen rounding the corner, the market-place cleared as if by magic.

Spoken Latin must have been simple enough to be followed even without strict attention to the cases. Hence its rapid spread.

In Continental countries the interpreter in the Courts of Law cannot be the first casual comer, as in this country. He must be a man qualified and admitted to practise by the Courts. He therefore enjoys a higher standing than can be claimed by his English congener, and procedure benefits in that men of a higher educational level are attracted to the function. Evidence is not taken in open court, but in a private room, before a delegated judge. Both the witness and the interpreter sign the record of the evidence.

It must be remembered moreover that in Continental courts the exclusion of leading questions is unknown. The foreign witness indeed expects them, especially when, as in this country, he has already furnished a formal account of what he is going to say, in the form of his proof. He is therefore puzzled by the studiously non-committal mode of interrogation which aims at avoiding them.

In what respect does the definition of a good interpreter differ from that of a good translator? The latter is, for legal purposes, one who gives a reproduction of the original faithful in every detail, including all errors, omissions, etc. Does the same definition hold good for the interpreter? Is he bound to give a strict and close rendering of his spoken original?

In one case at least, the reply must be a categorical affirmative. If, in the course of examination of a witness Counsel puts a clear-cut, forcibly-phrased, albeit argumentative and perhaps lengthy

question, then it is the interpreter's bounden duty to render its exact equivalent to the witness as regards signification and sequence of phrase, and forcefulness and dignity of language.

The same applies to the English rendering of the reply in the case of a clear and competent witness, though the interpreter is sometimes in a difficulty owing to the tendency of a professional witness to indulge in a lecture, where a phrase would suffice.

As to uneducated witnesses, one need only remember the difficulty Counsel have with them in English, to understand how the interpreter is placed. No hard and fast rule can be laid down.

Certainly no interpreter has the right to follow in the footsteps of the Russian who, having translated the question to the witness, added " if you say no to that, you lose your case ". Nor of that other who, admonished of omission of part of the question, replied " that does not matter ". What matters or does not matter is the responsibility of Counsel, not of the interpreter.

Finally two problems of conduct presented by actual experience :

Interpreter A., for the defendant, observes that interpreter B., for the plaintiff, is persistently misrendering a key-word in such manner that the plaintiff is giving answers which prejudice his own case.

Or again : The defendant in a slander action is a Russian, knowing no Polish. He protests that the word constituting the alleged slander is not a Russian word at all. The witness to whom the alleged slander was uttered is a Pole. The interpreter (for the plaintiff)—and no one else apparently—knows that the word in question is the correct *Polish* term. The point does not arise, and no question is put bearing on it.

The problem which here presents itself to the interpreter (namely as to whether any intervention on his part is called for) may be a moral one, but is clearly not a legal one. The terms of his oath only bind him " well and truly to interpret " the questions put to, and replies given by the witness. This restricted view of his duties has been still further reinforced by recent utterances of two Chancery Judges, Mr. Justice Maugham and Mr. Justice Luxmore both of whom, (in connection with a proposed oral translation of written documents) pointed out the limitation of the functions covered by the interpreter's oath.

Therefore there is no legal duty upon the interpreter to intervene in any form.

The above definition not only limits the duties of the interpreter however. It also limits the practical possibilities of intervention which lie open to him.

Whatever his sense of the moral problem involved, he can only

give it expression through the medium of his solicitor and counsel.

This fact at once points to the course which both expediency and practicability concur in rendering desirable, namely to communicate the facts, if of sufficient importance, to his solicitors, and leave to them the responsibility of the decision as to the course to be pursued.

Naturally the difficulty only arises in relation to facts which transpire in open court. In all other matters the interpreter is under the bond of confidentiality.

Happily moreover, such cases are so exceedingly rare that, however interesting the question may be in principle, it is devoid of any great practical importance.

One of the greatest difficulties perhaps met with by the interpreter is that encountered in dealing with well-meant, but ill-directed attempts at simplification on the part of a witness. Not simplification, indeed, or expedition, but merely confusion follows from the endeavour of a foreign witness to speak in the language of the Court, or in another language which he assumes to be more easily within the comprehension of the Court if, (as frequently happens) his effective knowledge of the language falls short of the minimum essential to correct understanding (his own opinion to the contrary notwithstanding).

Thus, in an action before a former Lord Chief Justice of England, when a Spanish lawyer gave evidence in English concerning the law of Spain it is safe to say that not a person in Court (except perhaps Spanish lawyers) had the slightest idea of what he desired to convey, and had it not been for the shorthand notes from which the judge was able afterwards to piece together the meaning, his evidence would have been useless. In another case a Dutch witness who was being examined through an interpreter delivered a long answer in an 'English' to which even a mental re-translation by the interpreter into Dutch failed to impart any meaning. The Judge thereupon, turning to the interpreter, asked: "What did he say". To which the interpreter made the only reply open to him: "The Witness was speaking English, my Lord, in which your Lordship is as competent as myself".

The worst culprits in this respect are perhaps Italians of the commercial class speaking or writing what they conceive to be French. Unless they can be persuaded to change back to their own language, the result is that the interpreter or translator has to subject their utterances to a continuous process of retranslation into Italian before he can apprehend their meaning. "Nous avions une petite escorte de marchandises", says one witness. Putting 'escorte' (escort) back into Italian we get 'Scorta', =supply. "La consigne ne fut pas faite par temps" is meaningless, as

' consigne ' means cloakroom, etc., and ' par temps ' has no sense at all. In Italian, however, the meaning is clear, " La consegna non e stata fatta per tempo " = the delivery was not made in time.

This further difficulty of words of similar form with widely divergent meanings, and the tendency to use them as synonymous, occurs again and again in all languages. Thus a Frenchman with a smattering of English will say ' delay ', when he means ' délai ' that is, a time limited by statute or otherwise, or an extension of time allowed. Or again he will say I ' pretend ' when he means ' je prétends ' I allege, or maintain, a very essential difference. (French people long resident in England frequently apply the converse process saying, e.g. ' rente ', revenue, for ' rent ', loyer.) Very often the circumstances make clear what is meant, but this is far from being always the case, and the interpreter is not able to intervene in all instances and put the mistake right.

An instance in point is that of a Swiss lady who elected to give her evidence in English (though provided with the necessary interpretational aid to the use of French) and did great injury to her party by saying " he insisted on the fact that the money was a loan ", the word ' insisted ' seeming to corroborate the other party's otherwise very doubtful contention that he had always disputed this point. The French phrase in the lady's mind was " il insista sur le fait que, etc. ", the true rendering of which into English is " he laid stress on the fact ", and is devoid of the implication of the reiteration of a previous assertion. Even though the judge remarked that he had carefully noted the important bearing of this statement on the case, any intervention by the interpreter was impossible.

A further instance which clearly illustrates upon how fine a distinction an issue may turn is the following : A German plaintiff, knowing no English, who had concluded a transaction in London through an English friend, was asked in the witness box why he had not at the time of contracting the business, put to the defendants certain requirements as to delivery and payment, upon which he was now suing. He replied that he had put it to his friend and the latter had told him that " Alles in Ordnung war " which latter words were rendered by the interpreter as " everything was all right ". The case was decided against him, partly on the ground that he had thus acted on a personal assurance of his friend with regard to the transaction generally, while the correct rendering of the German " everything was in order " or " everything was settled " would have left open the possibility, indeed would have made it seem likely that the reply was only returned after reference to the defendants.

An amusing instance of confusion of meanings by mis-use of words was furnished by a Bulgarian who wrote in Esperanto, and very

much puzzled the Esperantist recipient by saying that the reason he had not done a certain thing was because he had no ' remedies '. A moment's consideration however, by a (non-Esperantist) translator made it clear where the confusion lay: Putting ' remedies ' back into Bulgarian it appears as ' srdstva ' but this word, in addition to meaning ' remedies ' has the further meaning of ' funds ', which was what the writer had intended to convey. This example of selection of the wrong rendering out of a number of possible ones is one more instance of the common error of endowing a word in a foreign language, which at one point only coincides with a word in the language of the speaker or writer, with all the accessory significations of the later term.

The private interpreter is otherwise placed than the legal. Discretion is enforced by the fact that he is not infrequently (rather to his disquiet) the recipient of the confidences of both parties. Asperities inevitably lose something of their harshness in the transmission, so that in a limited sense, he becomes a mediator *malgré lui*.

On many occasions if the interpreter were to communicate the unflattering opinions expressed to him in confidence (!) by one party about the other the discussion would be brought to an abrupt conclusion.

CLASSIFICATION OF LAW

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Introductory

An attempt is made here to construct a classification of law. There is nothing new in that. From Gaius up to the present day, having in view only the streams of law with which our own is affiliated, much has been written on arrangements of the law, if not also on classification, as we venture to define that term. It would be an interesting line of research to mark out the discoveries of principles of classification in the course of the centuries. That task, however inviting and difficult to be denied, had to be put aside since it would have stretched out what is intended to be a practical proposal, to an inordinate length. If the legal architects of the past are not passed in review in the ensuing essay it is not from despite but out of necessity.

It will be an aid to the reader if we state in advance the operating levers of the classification proposed. They are the following:

1. A General Introduction states the foundations of a complete code of law or the pannomion (to revive a Benthamic coinage). It will include: (a) The structure of the government; (b) The sources of the law; (c) The rules for interpretation of the law; (d) The rules of conflict of laws.

2. The distinction between Public Law and Private Law is retained. There will therefore be two distinct codes. In printing practice there may be and probably will be a dozen or more special codes growing out of the above divisions.

3. Each of the divisions of Public Law and Private Law has a division of General Part and Special Part. It should be particularly noticed here that this division is not one of general propositions (e.g. principles) followed by concrete statements (e.g. rules). The subject matters of the General Part and the Special Part are entirely distinct.

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[1] Translator of Gareis *Rechtsenzyklopädie* (1911); associate editor Modern Legal Philosophy Series; co-compiler: Sources of Ancient and Primitive Law (1915); *Primitive and Ancient Legal Institutions* (1915); *Formative Influences of Legal Development* (1918): *Jural Relations* (2d ed. 1928); *Introduction to the Science of Law* (1930).

4. Both the General Part and the Special Part are introduced by a division called General Provisions; i.e. of classificatory, definitional, and interpretative rules which govern the respective ensuing titles. These introductory divisions have an ungainly aspect in a synoptic table, but that is only appearance. The importance of these introductory divisions is considerable and if care is devoted to their proper functioning, it will be found that the great mass of concrete rule-making will be considerably reduced.

5. There is a break in both divisions of Public Law and Private Law yielding the divisions General Law and Special Law. The General Law is, as the name implies, the law applying to persons in general without respect to specialized industrial or other relations. Thus the law of Land falls under General Law, while the law of Corporations falls under Special Law. This division is a practical one rather than a logical need, but it is firmly supported in classification practice.

6. The field of Private Law in its Special Part is divided not by juristic classes of rights but by the actual concrete subject matter, or to put it in other words, the objects for which rights exist. Classes of rights overlap so that the most incongruous materials may be associated. Thus under unpolarized rights (rights in rem) we would find such things as land, undisturbed contract condition, and copyright in companionate association. The objects (juristic sense) for which private rights exist may be completely catalogued and they are set out in the ensuing text in nine separate and distinct compartments.

For Public Law a different method of cataloguing must be employed. In Public Law the basis of separation is the functions of government (e.g. taxation, police, war, etc.).

7. At this point a new operation is introduced. The above explanations deal with what may be called the up-and-down, the vertical divisions of the law into Public and Private, General and Special, etc. We now find the need of horizontal or left-to-right divisions. Having isolated the subject matter of the law—Land, Chattels, Future Performances, etc.—we need to treat these data according to the way they are affected by wrongful acts. This inquiry yields the horizontal division of Rights, Wrongs, Sanctions, connecting the code of Private Law with the code of Public Law.

8. Each of the above horizontal divisions must have its own unique separation of subject matter. Rights are created and destroyed. Wrongs have their modalities. And here is introduced a logical paradigm which is pervasive; applying to all the vertical and horizontal divisions of the law. Exhaustively applied there can be no lacunae in the law. That logical paradigm is based on the

following interrogations: What? (i.e. what subject matter); Who? (i.e. what persons—infants, married women, corporations, etc.); When? (i.e. past, present, future, relation back, etc.); Where? (i.e. the locus of acts or events); How? (i.e. formalities, seals, etc.). This paradigm is recognized in all attempts at classification. It is the child of necessity, but so far as we have been able to discover, it has not been explicitly formulated as a method.

The above eight levers represent the essence of the classification here proposed. These explanations will be made more definite in the text which follows and their understanding will be facilitated by inspecting the synoptic table on page 79.

In the text of the essay will be found an occasional criticism of classification schemes in use by the profession in this country. While the writer is unable to modify the statements made, he wishes to pay homage to the unquestioned practical success of the American Digest System for the purpose for which it was designed. The widespread imitation of that system in America is a powerful indication of its merit. Without it and its refinements, American law would to-day be chaos. What is attempted here is something entirely different. A digest system may operate as best it can with an alphabetical arrangement of significant titles of the law. That solution will not do for a pannomion, although it has been seriously suggested in a highly intellectual and respectable quarter.[1]

Appreciation of this problem is at very low ebb. It is a rare phenomenon when anyone ventures to discuss it. The American Law Institute has apparently ignored the problem of classification. Dean Roscoe Pound has written pessimistically and, as we think, too pessimistically, of what may be achieved by classification.[2]

The temper of the age is one that does not tolerate formulas. The present ferment in the physical sciences, in logic, and in mathematics is a powerful witness. However, that fashion will pass. Another generation will find classification of the law not merely a game for impractical minds, like a problem in chess, but an inescapable need. In America, it has been the ruling practice first to put up the building and then later to study architecture. This method applied to the structure of the law would be immensely costly. There is altogether too little interest in the problems of classification. It would be well if some part of the enormous effort now expended in legal research in carrying sand from one side of the fence to the other and back again, were diverted to formal problems of the law and the

[1] Holdsworth, "Charles Viner and the Abridgments of English Law" (1929), *Law Quarterly Review*, 39: 17 (37).

[2] Preliminary Report on the Classification of the "Law", *Proceedings American Law Institute*, Vol. II, pp. 381-425.

foundations of legislative science. This paper is tendered as an effort in that direction.

CLASSIFICATION

1. *Arrangement and classification.*
2. *Internal and external classification.*
3. *Kinds of external classification.*
4. *Juristic classification.*
5. *Kinds of juristic classification.*
6. *Practical results of choice of classification.*
7. *Practical and scientific classification.*
8. *The American encyclopedia system.*
9. *Nature and basis of classification.*
10. *Extension of the natural basis of classification.*
11. *Public and private law.*
12. *Theory of the General Part.*
13. *Normal and abnormal persons.*
14. *General law and special law.*
15. *Recapitulation.*
16. *Some specific problems.*
17. *Internal classification.*
18. *Principles of classification.*

1. *Arrangement and classification.* An arrangement may fall into any one of three divisions: (a) a collection based on chance or upon a choice not governed by a complete scheme; (b) a collection based on a mechanical standard or plan; (c) a collection based on a logical relation of the parts. The first may be called simply a Collection; the second an Arrangement (strict sense); and the third a Classification.

A statute book or a digest compiled from materials in the order of their availability for purposes of editing without regard to any plan would be a Collection. The same materials selected on an alphabetical plan or in an historical series would be an Arrangement. The same materials combined on a logical basis of the subject matter would be a Classification.

All three of these methods of editing are found in the literary sources of law. Books of precedents (case law) are collections of cases arranged in the order of time of no final decision. The subject matter of books of precedents is usually made approachable by means of an index of the nature of the controversies reported. Statute books are commonly arrangements on an alphabetical basis. Session law books are commonly collections with a minimum of arrangement or classification. Continental codes, American digests, and encyclopedias of law are based on a plan of external or internal classification or of both.

2. *Internal and external classification.* A classification is *internal* when the subject is treated as a unit without reference to other units in the same system. A classification is *external* when the subject matter is arranged with reference to a consistent, logical plan taking account of other bodies of subject matter in the same system. For example, American digests and encyclopedias commonly have an external alphabetical arrangement, but the contents are treated as units based on a plan of classification. To illustrate: the topic of Agency will be found either under the letter A (for Agent) or P (for Principal), but the treatment will be found to be an attempt to follow a logical internal plan. In a plan of external and internal classification, the topic of Agency will be allocated with reference to all other topics of the system. Publishers of encyclopedias sometimes make the claim of using an external classification even when the contents are arranged alphabetically, but these claims are not generally verifiable. One instance here may be noted. In an important and valuable encyclopedia we find the following distribution of agency: CONTRACT—EMPLOYMENT—AGENCY.

Here Agency falls under the larger grouping of Employment and Employment falls under the larger grouping of Contract.

An attempted classification which is logically untrue is only a spurious classification. This grouping is logically untrue. Agency is not an employment nor is it a contract. It may normally be connected with a contract and it may also be connected with an employment relation, but accurately a power of agency is neither an employment nor is it created by contract. An attempted classification that fails necessarily falls back into the category of a collection. The external classifications of our digests and encyclopedias, so far as they are seriously advanced, are to a large extent mere collections of topics. Except for the alphabetical arrangements of these topics the classification schemes adopted would entirely fail.

Both kinds of classification are of great importance, but the logical methods upon which they are respectively based are entirely different. These differences will subsequently be discussed.

3. *Kinds of external classification.* There are chiefly three kinds of external classification, *i.e.*, methods of distribution of separate topics with reference to a complete system. The first is Juristic classification. The second is a Functional classification. The third, to be explained and advocated at another place, is Natural classification.[1]

[1] Cf. Durand (de Cros), *Aperçus de taxonomie générale* (1899); Mill, *Logic* (1843); Sigwart, *Logik* (1878); Wundt, *Logik* (1880-83).

Juristic classification. A juristic classification is based on a logical analysis of subject matter in terms of juristic categories without regard to its economic importance and without respect primarily to the variations that present themselves because of differences in economic relations. For example, the contract that one entrepreneur may make with another is classified in the same way that a contract would be classified between a laborer and a captain of industry. They are both contracts. Again, the obligation of suretyship of an individual undertaken without reward is classified in the same way as the obligation of suretyship of a corporation undertaken for a premium. If, however, these contracts are differently treated for legal purposes these differences must be separated if the law is to be stated accurately. There is nothing in the method of juristic classification to prevent recognition of such differences, but it must be acknowledged that the purely logical method of juristic classification tends in spirit to look upon legal phenomena as being less particularistic than they are in fact. This generalizing and levelling tendency has attracted much criticism, but the criticism has gone to the immoderate length in recent years of suggesting the abrogation of all categories of legal thinking, and especially of the Roman Law categories which prevail in continental law and also to a large extent in our own law.

The earliest juristic classification was that of Gaius. Gaius wrote these famous words: "Omne autem ius quo utimur vel ad personas pertinet vel ad res vel ad actiones." ("All of our law relates to persons, to things, or to actions".)

The law of Persons meant the law governing relations where one person was of inferior legal capacity (*e.g.*, slaves, aliens, persons under paternal power, or guardianship). The law of Things included all other topics except procedure, which latter topic constituted the law of Actions. The famous classification of Gaius still survives, but in a greatly modified form. It was succeeded by the equally famous classification of Justinian's Institutes. In turn, Justinian's classification was followed by the now prevailing Pandect classification. In modern times, therefore, there have been used two methods of juristic classification: (a) the Institutional classification of Justinian, and (b) the Pandect classification of recent continental codes.

Functional classification. In recent times, the proposal has been for "a radical reclassification of law in terms of the human relations affected by it".[1] The Roman law categories are to be abrogated, and in their place are to be substituted such groupings as political

[1] Oliphant, "Stare Decisis", in *Handbook of Association of American Law Schools* (1927), p. 61 (73).

relations, familial relations, and business relations. The field of business relations, especially, is to mark the chief point of departure to emphasize problems of finance, marketing, and risk. So far as this proposal (a) is based on a critique of the materials of case law, and (b) is suggested as a foundation for the creation of legal rules, it is unobjectionable.

Case law is based on what the judges have done in litigation and not on what explanations the judges have given for their acts. No case goes beyond what is done in the actual adjustment of rights and the facts upon which that adjustment is made. The reasons given by the judge or later given by a commentator are no part of the actual process of decision.[1] These explanations may and do, however, influence future legal phenomena. As has already been shown elsewhere,[2] there is a difference of kind between Becoming law and Hypothetical law. A functional or social approach will no doubt help to clarify the Hypothetical law. In the creation of law whether by a legislature or by a court, the groundwork of human relations as they actually are must be considered.

Many years ago, Jhering, thinking in a somewhat similar direction upon the same problem, made war upon Begriffsjurisprudenz (jurisprudence of concepts). Much has followed since that day, and some points now stand out pretty clearly. Law, to be workable, must be adjusted to human relations, but that does not mean that for professional purposes concepts are to be abolished. Our only means of approach to law is by concepts. Law is a conceptual art through and through, and without these concepts, legal art would fall into chaos. Our concepts are not to be annihilated but improved.

The functional idea of law is indispensable but, touching our problem here, we believe it will be impracticable to construct a major classification based upon the types of human relations. The short reason is that the whole law would need to be restated for each of the types of human relations. This objection will perhaps be made clearer in the discussion later of the bases of classification. A method of classification must be found which will make the law accessible as a whole without unnecessary bulk. All the departures from general rules that may be encountered can be assimilated in a non-functional classification. The proposal for a radical reclassification, we believe, is made without sufficient attention to the possibilities of a juristic or of a natural classification to accomplish the purpose of an accurate statement of legal rules. Another phase of the proposal touches the question of codification, a problem with

[1] Cf. Goodhart, *Essays in Jurisprudence* (1931) pp. 1, 50. Paulus says (D. 50. 17. 1) : Regula est quae rem quae est breviter enarrat. Non ex regula ius summatur, sed ex iure quod est regula fiat.

[2] Kocourek, *Introduction to the Science of Law* (1930) pp. 212, 220.

which we are not now concerned. In a word, the functional idea of arranging legal materials may have various pedagogical advantages, but it can never displace the role of juristic or natural classification in a complete statement of the law.

4. *Juristic classification.* A juristic classification is based primarily on the nature of the jural relations that are involved and not primarily on the economic content of these relations. For example, there are recusable and irrecusable relations. The typical form of a recusable relation is one that results from bilateral conduct which expresses to third persons by oral or written words a logical idea of that future relation. The best example of this is an express bargaining by offer and acceptance resulting in a contract relation. The idea of contract in its strictest sense always involves a promissory obligation. This idea in turn is part of a larger idea called Agreement, which includes forms of conduct other than those resulting in promissory obligations (*e.g.*, releases, assignments). It is plainly a matter of convenience if all common ideas can be treated in common. It would be needless repetition to restate the common elements in each species of Agreement, although it will be necessary to state essential differences in the species. The purpose of any juristic classification is economy of arrangement. It would be useless and impracticable to state in detail for each concrete economic form of contract all the rules that govern it. The object of every juristic classification, therefore, is to economize effort without slighting differences.

The great task of classification is to realize the ideals of economy, clarity, accuracy, and convenience. Legal phenomena, like all other phenomena, do not present in themselves either definitions or classifications. All definition and classification are artificial. Furthermore, definition and classification never absolutely define or confine the phenomena upon which they operate. Yet with these inevitable limitations, they are necessary methods for the practical efficacy of law. While these limitations must be faced and admitted, it may be remarked that their disturbing force is commonly greatly exaggerated. The fact remains that definition and classification are not only useful but ineluctable. We could make no shift without them. It seems too puerile to need statement that the inadequacy of previous attempts to solve these problems is no basis for declining the effort to shorten the gap never to be closed between legal reality and our conceptual treatment of the reality.

5. *Kinds of juristic classification.* There is not just one juristic classification, but there are in actual fact and in possibility scores of such classifications. We may instance here among various classifications for our law actually employed or proposed, among the rest,

those of Hale, Wood, Blackstone, Terry, Salmond, and more recently, Rodenbeck, Pound, and Oliphant.

One of the most celebrated of European classifications is that of the German Civil Code, which in the ultimate outline follows.

GERMAN CIVIL CODE

I General Principles
II Obligations
III Things
IV Family
V Inheritance

The characteristic juristic feature in the details of this classification is the use of generic ideas and terms, such as disposing capacity, declaration of intention, obligation, etc. It is based on the plan of including in one place all the jural elements that bear on the main divisions of law. This is done in the book of General Principles, which includes capacity, contract, agency, and similar ideas. Another feature is to put in separate divisions bodies of law that historically and in substance are in themselves separate. This accounts for the book on Family Law and the book on Inheritance. Lastly, the central arrangement of the code is purely juristic—the book on Obligations (including our Torts and Contracts) and the book on Things. This latter division is based on polarized (in personam) and unpolarized (in rem) rights with an exchange value.

It should, however, be remarked that this code (which covers only 385 pages in one of the German editions) does not embrace all, even of the private law. There are various other German codes, among which may be mentioned, the Civil Procedure Code and the Commercial Code. In substance, the German Civil Code includes all of what may be called general private law. The German code has become the model of classification of our own time. The plan was adopted in recent years with some modification in detail in Japan (Civil Code 1896), in Switzerland (Swiss Civil Code 1907), in Brazil (Civil Code 1917), in Turkey (Civil Code 1926), and in China (Civil Code 1930).

That it is possible to construct a code upon various juristic plans is not only evidenced by the various European classifications to be found in actual codes (*e.g.*, the French Civil Code in contrast with the Swiss Civil Code) and in numerous comprehensive treatises (*e.g.*, Planiol in contrast with Windschied), but consideration of the nature of a jural relation with its various elements and classifications will quickly show that the possibilities have by no means been exhausted. Not every classification, however, can have

equal merit with others. For any given country there will be one ideal plan of classification superior to others.

The problem of classification of law is essentially one of logic. The problem is for America as yet only in the first stages of scientific discovery.

Specialism has always been underrated in Anglo-American law, and it is the prevailing belief that the professional lawyer is competent to undertake all the practical and scientific problems that concern the law. This view is manifested in a very important way in various directions. In the judicial office, we have not only omitted but refused to put in operation a system of specialized courts. In the drafting of legislation, it is supposed that the task may be committed to any legislator, or at the best to any lawyer familiar with the course of decisions dealing with the subject matter. As to the lack of court specialism, the practice is the same as if the general worker were employed to do any and all parts of the work of putting up a fifty-storey office building. On the drafting side, the procedure is the same as if the same general workman were employed to draw plans for the building. These propositions need only to be put to refute themselves as to workability, but, unfortunately, for the first proposition we remain entirely indifferent to the results, and for the second, there is little that is presently possible, even with the will, to alter the situation.

The suggestion may present itself that if we have not yet for our own system of law developed the scientific knowledge necessary for the solution of the problems of classification, we may copy scientific models already created in other countries. To a certain extent, the suggestion is valid, but in other features it fails. European classification of law is based on Roman law. It also has a background of several centuries of juristic thought and discussion of the problems to be encountered. If, for example, the German Civil Code may be regarded as the highest stage of accomplishment reached in the science of classification of Roman law materials, it would not in all respects meet the needs of our law either in form or in substance.

There are important historical differences. For example, in our law, delictal responsibility is not treated for purposes of classification as an obligation, as in Roman law. In our law, in spite of the procedural origin of the law of torts, this body of rules has always been approached from the standpoint of the sanctionable claim to the conduct of others. The Continental treatment of this subject, under the head of obligations, is an ancient historical survival based on a highly immature procedural emphasis on the actio. This is a capital defect. It is an outstanding instance, not

of the futility, as misinformed persons may claim, of a juristic or scientific classification, but of the misapplication of sound ideas of classification. There is no likelihood that this juristic error will be imitated for our system of law, but there is a prospect that another juristic error will be perpetuated when the law of torts, following a pedagogical tradition, is entirely segregated from other fields of law. This error can be accomplished, but only at the cost of mutilation of a consistent plan of classification.

The trust is another important instance of a historical development which will require special treatment in any Anglo-American code. And, again, the dual division of our legal system into common law and equity will also present a problem unknown to Continental law requiring special treatment.

The problem of form is of less importance, but it is fairly certain that the earliest codified law, whether official or non-official, will not be cast in the abstract moulds of Continental law. Continental law has its chief basis in Justinian's code. The materials of Roman law in which pure abstraction was generally relieved by concrete problems, were distilled and redistilled throughout the course of some seven hundred years by glossators, commentators, mos gallicus, the so-called Practical School, Natural Law, the Historical School, and Pandectists. The final result was a code of abstractions in form quite unlike the code of Justinian.

Our law has developed almost entirely from concrete cases, and it may be fairly predicated that the first forms of our classified law will reflect a great deal of this concreteness. It is interesting to note in this connection that the American Law Institute, following the model of some of the Indian codes, is restating the law in a detailed form of propositions, with explanatory illustrations, and with accompanying commentaries. We regard this method of treatment as not only useful but also as inevitable for our law. The training of our legal profession also reflects the concreteness of our legal sources, and while an abstract formulation of our law in a rigid form of legal terminology is possible for our law (but not without great difficulties), yet such a formulation of our law would certainly fail in the present era, and would drive the legal profession back to the historical sources. The code itself would be a still-birth.

6. *Practical results of choice of classification.* We have already stated the leading purposes of any classification of law. The chief ones are (a) economy, (b) clarity, and (c) convenience.

By economy is meant the avoidance of all unnecessary bulk. This feature is a relative one dependent on time and place. Where a juristic terminology is a professional tradition (*e.g.*, Continental Europe), codes will be shorter than in countries where legal form

and terminology have been affected chiefly by historical accidents, as in the case of Anglo-American law. Economy of statement is violated in two ways, (i) by unnecessary elaboration, and (ii) by unnecessary repetition (*i.e.*, overlapping). In both these features let a comparison be made between a recent American or English Encyclopedia of law and any recent Continental code. The difference in bulk is astounding. In part we may account for the engorgement of the American type of encyclopedia by the fact that there are several hundred law generating centers to be taken into account, with an output of decisions mounting now toward the two-million mark.

Clarity, on the positive side, means sharpness of outline of the ideas conveyed, and on the negative side, avoidance of real or apparent conflict. The first of these features has nothing directly to do with classification, since it is a matter of the art and science of legislative drafting. Conflict may result from various causes, but if ignorance and carelessness be put aside, it may result from an incorrect distribution of rules differing in their range of inclusiveness. Thus, generic ideas may be improperly postponed or they may be confused with specific ideas. This feature will be noticed again.

Convenience is also a relative end. It depends largely on professional training and tradition. Convenience may be affected by other factors. A purely alphabetical arrangement of materials is always more conveniently approachable than a logical non-alphabetical classification, but in the end a classification will for the best results be ideally preferable to an arrangement if there are no serious defects in the classification. Legal rules are not like words which may be distributed on the basis of an alphabet. They are interrelated and tend toward a systematic logical unity of structure. To use the language illustration again, they are the literature of human relations where the meaning of the words is submerged in the current of ideas. A scientific treatise obviously is not merely a collection of words. No chemist or mathematician would write his treatise on the basis of an alphabetical arrangement, nor is there the slightest reason to believe that a system of law can be economically, clearly, and conveniently reduced to writing on such a basis.

The digest tradition in our law has been and still continues to be so powerful in moulding professional opinion on questions of arrangement and classification that it is wholly unlikely that anything said here or elsewhere will have the slightest influence on the immediate course of events. We are slowly approaching an era of codification, and it may confidently be expected that the first examples of codified law will not show any important departures from the unscientific models of the immediate past or the apprentice traditions of the

immediate present. Moreover, a scientific statement of our law, if that were at all possible at this moment, would for us be nearly as ineffective as the sudden imposition on the Ifugao tribes of the East Indies of any one of the best examples of legislation of America or of Europe.

There is, therefore, always a relation of external facts to the choice to be made of an arrangement or classification. That choice is the product of its own age. But even where as between two choices, the external conditions do not affect the matter, there will always be other practical differences. This is shown very clearly in Japanese codification. There were two choices. The first was the Boissonade draft code; the second was the draft code of the Hozumi commission. Both were juristically based classifications. The Boissonade draft, following the model of the French code, was based on the so-called Institutes system of Justinian. The later Hozumi draft was based on the so-called Pandect system, as exemplified by the German Civil Code. The chief differences were on matters of allocation of materials. In the Boissonade draft there was no separate treatment of matters applicable generally (*i.e.*, a General Part). As in the French code, Family Law was put under Persons, and Inheritance was assigned to Property. Superficially this looks like a mere matter of choosing the position of a subject-matter and indifferent otherwise. In other words, it has the appearance of a matter of taste without any practical consequences as to what is done. The actual result, however, presents a startling difference in the principle of economy. The Boissonade draft contained 1,762 articles. The Hozumi draft contained 1,146 articles. The number of articles was cut down more than a third, or looked at the other way, the old draft had in excess of fifty per cent more articles than the draft adopted. If a mere matter of choosing the position of treatment can have practical effects of such importance as this example shows, it is not difficult to believe that choices not touching matters of form may have even more important consequences in matters of clarity and convenience.

Since the Japanese code is not perhaps easily accessible to the general reader, we now set out its plan of classification.

CIVIL CODE OF JAPAN

I *General Provisions.*
- (1) Persons, capacity, domicile.
- (2) Juridical persons.
- (3) Things.
- (4) Juristic acts: Agency, conditions.
- (5) Time.
- (6) Prescription.

II *Real Rights..*
(1) General provisions.
(2) Possessory rights.
(3) Ownership.
(4) Superficies.
(5) Emphyteusis.
(6) Servitudes.
(7) Liens.
(8) Preferential rights.
(9) Pledge.
(10) Mortgage.

III *Obligations.*
(1) General provisions.
(2) Contract, Gift, Sale, etc.
(3) Negotiorum gestio.
(4) Unjust enrichment.
(5) Delicta.

IV *Family Law.*
Marriage, Divorce, Children, Guardianship.

V *Succession.*

7. *Practical and scientific classification.* A practical classification, if we understand the meaning of this term, is an arrangement of the law in a manner most familiar to the practitioner. In another slightly different sense, a practical classification is a historically derived method of arranging a subject-matter. One of the best examples of both of these senses, is Justinian's Digest, which in the main was based on the praetorian edict, the form of which was well known to lawyers. A practical classification may also be a scientific classification. The German Civil Code is one of the best examples of this duality. For many years German lawyers were trained to become familiar with pandect treatises (*i.e.*, treatises on Modern Roman law), and the adoption of this classification in the code did not disturb professional habits.

In our law, there is no distinction between a practical and a scientific classification, except so far as law school curricula have developed such a distinction. The professional lawyer, before the advent of the encyclopedia, placed his reliance on digests arranged alphabetically. Later, the encyclopedia appeared, which, while unifying certain features of the digest, still was arranged as to the order of subject-matter in an alphabetical arrangement. The encyclopedia makers attempted to go farther in seeking to construct a system as a finding device or index for the contents. What that system is remains to be examined.

In this connection the influence of the law schools has been very important in developing the topics to enter into a scheme of classification. Law school curricula in turn have been influenced by legal treatises. In the first period of the Harvard Law School there

was no set schedule of studies. There were general lectures and recitations on important text books. Later, at the same school, distinct courses were offered in Real Property, Equity, and Constitutional Law. For the period up to and somewhat beyond 1870, the total number of private law courses did not exceed twenty. There were missing such topics as Quasi-Contracts, Damages, Municipal Corporations, Suretyship, Trusts, and, as might be supposed, such topics as Insurance, Patents, Public Service Companies, Mining Law, Water Rights, Trade Regulation, and certain other specialities of recent years. The most curious omission was Torts, which was not included as a separate branch of law prior to 1870. The text used was an abridged version of Addison, of which a reviewer of the time said : " Torts is not a proper subject for a law book." It may be interpolated here that, while there can be no objection either to a case-book or to a text on Torts, this topic is not an independent one in a proper classification of the law.

The subject-matter of text-books and of curricula is determined by external facts. It might be possible to teach everything about law, but not practicable. A digest of law and a classification of law must include everything regardless of the economic importance of what is embraced. And, again, the selection of materials that make up a text-book or a law school course is based on entirely different considerations than the construction of a code. It may be observed at this point that the American Law Institute is following the practice of the law school curriculum, rather than the plan of a code. The results achieved will be very valuable, but eventually it will become necessary to recast all of the restatements into a new arrangement based on a systematic classification in which all lacunae are provided for, in which all inconsistency and overlapping is cured, and in which a uniform terminology and internal classification are employed throughout, instead of leaving these matters to the choice of the individual draftsman. It should be also remarked that this observation is not intended as a specification of fatal criticism, since the need of a restatement of the law is already so imperative that this great undertaking could not await the slow process of creation of the juristic formulations of terminology and classification. It is the misfortune of legal science that it would be impossible to organize a commission in any Anglo-American country which could create the architectural basis of a thoroughly scientific scheme of law applicable to our conditions. A scientific classification is impossible in this generation for two sufficient reasons: the experts are not to be found in any country of Anglo-American law to create it; and such a classification if created probably could not be assimilated by the profession. The problems involved have never

been of more than the slightest professional interest, and on the whole we believe the American Law Institute has acted wisely in postponing the question. In the meantime, much will be learned in the effort to restate our law which will be available for future developments.

8. *The American encyclopedia system.* The encyclopedia system is the analogue of a code. Its aim is to include all of the law and to arrange it systematically. There is an outstanding difference between a European code and the encyclopedia in point of bulk and detail. The European codes are drafted in a highly abstract form. The form of statement in an encyclopedia, in contrast, is like another language.

The leading American encyclopedia follows the so-called standard classification, and is divided into seven main divisions as follows: (1) Persons, (2) Property, (3) Contracts, (4) Torts, (5) Crimes, (6) Remedies, (7) Government.

Under the main division, Persons, there are entered among the rest such diverse topics as Manufacturers, Divorce, Agency, Powers, Trusts, Abstracts of title, Annuities, Insurance, Gas, Waters, Bridges, Animals, Commerce, Fish, Logging, Motor vehicles, Newspapers, and Wharves.

Inspection of the other main divisions discloses numerous similar heteronomies. It is not too severe a statement to say that whatever value this collection of titles may have as a finding device, it utterly fails as a classification. It is not unlikely that the prodigious bulk of this undoubtedly useful work is due to the lack of a logical classification. The explanation for this failure to reach the symmetry and completeness of the later European codes is quickly apparent, and is due to a variety of reasons, among them: (1) the lack of a genuine basis of classification; (2) the fact that it was expedient to continue in use the topical headings already familar to lawyers; (3) the fact of multiplicity of law generating centers; (4) the need of giving continuity to the digest systems, and especially that called the American Digest. In essence, this large work reduces in the end to a more alphabetical arrangement of some 450 titles to which the legal profession has become accustomed. So far as concerns the main divisions, this scheme of arrangement might be entirely omitted without loss. An alphabetical table of the subject-matter would have been preferable. The controlling notion is that of ultimate concreteness exemplified in the digests. The purpose is to furnish to the practitioner actual instances which may be mechanically matched. But an encyclopedia cannot be merely a digest. It must attempt generalization. It must seek to unite as far as possible concrete instances under general

statements, but these generalities under the plan employed cannot go beyond the titles treated. It is easy to see that if there are certain legal rules and doctrines which apply to all divisions of the law, the effort to make each separate title complete must result in a tremendous volume of duplication of legal rules which must be stated over and over again.

These features make the effort to ascertain the law costly beyond all reason. The enormous expense of creating the literary form of our law in reports, digests, texts, encyclopedias, and other devices, must be borne by society if the legal establishment, and especially the profession, is to be kept afloat. The demand for concreteness of legal ideas is being satisfied as well as money, energy, and thought can reach, but at staggering cost.

Under existing conditions there is no immediate escape from these methods. The finding devices which have reached their most efficient form in citators, key-number digests, and descriptive word indexes have produced an efficiency which has kept pace with the colossal output of the courts. The vice of the whole process is due to the spirit of concreteness, which is the overriding impulse of our law and of our professional methods. This movement has already gone too far, and it is plainly producing effects upon the legal profession, the administration of law, and the interests of litigants (especially those who cannot command the resources of our expensive and difficult legal machinery), which cannot be contemplated without serious misgiving.

In view of the fact that methods have been developed which with more or less illusion as to the results attained, enable us to continue indefinitely the process of piling up mountains of books, the need of logical classification seems remote, and likewise any consideration of this difficult problem must seem entirely apart from what does or can concern the legal profession. We still have the English alphabet. It has met our requirements for seven hundred years, but will it suffice for another hundred years? We believe not. We believe that within the span of another generation this problem of classification must and will assume a place of major importance, not of course for the legal profession as a whole, but at least for that part of it whose concern it will be to mitigate the gigantic costs and losses inevitable in dealing with the subject-matter of a great science as if its materials were of the same nature as a mass of office documents to be filed away in separate compartments under an arrangement of numbers or letters.

9. *Nature and basis of classification.* Before we can attempt a scientific classification, it is first necessary to know what we mean by the term. What do we do when we classify law? It

immediately appears that the term classification is used in two senses. Firstly, it means a framework of ideas or a system of defined compartments into which legal phenomena may be distributed. Secondly, it means the actual process of distributing these phenomena. The work of the digestor is that of distribution. The work of the juristic architect is that of constructing the frame upon which legal phenomena may be hung. We are concerned here chiefly with the latter function.

It has already been stated that classification must be governed by the needs of economy, clarity, and convenience, but one of the additional tests of a good classification, at least for the purposes of a code, is completeness. The idea of completeness cannot be fully realized unless the classification both externally and internally takes account of all the permutations of human behavior and in itself presents an apparatus which makes it possible to determine the fact of completeness by a method which generates a series of ideas in an orderly manner from beginning to end. In the present state of the art, this objective is an ideal one and, so far as the writer has been able to ascertain, this feature of a scientific classification has received no adequate attention. The point under discussion may be illustrated by the objective of a text on wills published some years ago, which undertook to set out all the contingencies and possibilities of devises where provision is made for successive takers. The plan was purely mechanical, and its purpose was to provide a method for obtaining a complete plan of testation without reliance on the uncertain mental operation of attempting for each case to envisage the various contingencies and possibilities that might, and which often do, nullify a testator's wishes.

But what is the starting point of a classification ? The beginning is the critical point of any large venture. Is classification, in the sense of a plan, a frame of legal rules ? Clearly not, since legal rules are the subject-matter to be distributed. Is the basis to be jural relations, or is it to be some particular element of a jural relation ? There are abundant illustrations of both of these solutions. But first we must recall the elements of a jural relation. The important ones for our present purpose are (i) two persons (a dominus and a servus) and (ii) an involved act (*i.e.*, of duty or of power).

It is evident that we could run through the categories of claims and powers and distribute under them all legal rules, but many of these categories overlap others, so that such a method would soon be found unworkable practically. On the contrary, we might select what seems to us the most important one, let us say, that of

polarized (in personum) and unpolarized (in rem) claims and powers, and distribute all legal rules accordingly. This, in effect, is the spine of Holland's classification of private law. This central system has as lateral members (a) antecedent and remedial rights, and (b) normal and abnormal persons.

Salmond's central system is similar in selecting one category of rights, but the choice is of proprietary and non-proprietary rights, with a lateral branch of substantive law and procedure. The backbone of the German classification is simpler still; it consists only of proprietary rights (obligations and property) with two special appendages (Family Law and Inheritance).

Enough has been suggested to show the various possible points of departure. The reader, if familiar with the categories, can easily construct many interesting varieties of systems and it will be unnecessary here to enter into further details of the matter. All of these systems are based on the pandect treatises. What is adequate for a treatise is not necessarily sufficient for a code, since they have respectively different objects. We now propose for consideration a starting point for a classification which is not based primarily on the categories of claims and powers or on any separate element of a jural relation, but on the ends (the jural things) realized by the evolution of jural relations. These jural things are first to be completely isolated and then be made the starting point of an evolutionary treatment.

Restricting the discussion for the moment to the field of private law, and reserving further discussion of other points which bear upon the matter, we now set out the classes of jural things found in private law. But it is first necessary to premise that the substrates of these jural things may pertain in some cases to two persons. This factor for such cases will require dual treatment. Whether in fact for our system of law or for another, the enumeration goes too far or does not go far enough is not especially important, since that is a matter to be disposed of when the occasion arises.

TABLE NO. 1

Enumeration of Jural Things Recognized in Anglo-American Private Law.

	Own	*Other*
I	(1) Body (integrity, freedom)	Body
	(2) Mind	
	(3) Reputation	
II	(4) Land	Land
	Fixtures	
	(5) Chattels	Chattels

III	(6) Patents, Trade-Marks Copyrights, etc.	Patents, etc.
IV	(7) Relations (contract, domestic, etc.)	
	(8) Pecuniary condition (*e.g.*, immunity from fraud, unfair competition, right to pursuit of an occupation, good-will etc.,)	
V	(9) Future performances (contracts, etc.)	

The above enumeration is probably for the most part self-explanatory. One or two matters will perhaps need comment.

There are claims and powers with reference to one's own body (*e.g.*, the claim to corporal security, the power of self-defence). One may also have claims and powers which relate to the body of another (*e.g.*, claim that one's wife or child shall not be corporally molested, the power to defend such other persons from aggression). The same duality appears clearly in the case of land and chattels.

Where shall we classify (distribute) the topic of warranty of title or quality of goods? There are two places where the distribution may be effected—Chattels and performances—but since the question is one of an actual dealing with chattels, the topic of warranty is accessory to the main title. Likewise, covenants that run with the land are distributed under Land and not under Performances. This solution cannot be questioned on analytical grounds, since there is a clear distinction between a contract to sell and an agreement of sale, and likewise a clear distinction between a contract to convey and a grant of land.

The topic Performances is not limited to contractual performances but includes all forms of possible acts, including the field of quasi-contractual performances, except as these duties have an accessory relation to ownership, for example, in the case of tenancy in common.

The two meanings of classification are interconnected for practical purpose. The frame of classes must make possible the distribution of all legal phenomena. Very frequently, as already shown, the same legal rule when reduced to its ultimate elements of a single duty and a sanction may point two ways in a classification. If there is a logically coherent method of treating such problems, it avoids the evil of duplication of statement. The problem of warranty shows the difficulty and the method of solution. But suppose the case is one of express warranty, what is the solution?

We believe the answer should be the same; *i.e.*, since the warranty is accessory to the sale.

In the American Digest, a somewhat similar problem is disposed of—not analytically as here suggested, but on a purely mechanical basis. For example, if a legal rule deals with Property and Infants, the distribution favours the topic Infants, rather than Property, for the reason that in the list of categories of the American Digest, the division Persons precedes Property. But if the rule deals with an Infant's marriage, the distribution favours Marriage and not Infants. This is explained on grounds of convenience. But we venture to believe that the exception expresses the better rule and that the rule is not one of convenience, for which there is no certain measure, but is based on the rule of accession.

The merit which may be claimed, if any, for the above basis of classification is that it is primarily a natural rather than a juristic classification. It sets out separately all the jural things of the law and does not attempt as a point of departure to classify them into juristic categories.

It is an interesting fact to observe that, while in this country, jurisprudence has always been a nauseous thing, the basis divisions of our leading digests and encyclopedias is primarily juristic, at least in intention. How far this is imitation and how far homage to a despised science is doubtful. The fact remains that all classifications of law actually in use in Europe and America are juristic classifications. We believe that this is an incorrect point of beginning for the purposes either of a code or of a complete digest. This is due to confusion of ideas as to the proper arrangement of legal materials. The juristic basis of classification is appropriate to treatises such as the pandect books but entirely misses the needs of a code. The pandect system no doubt attains brevity and a harmonious arrangement, but brevity and aesthetic unity are not necessarily merits in a code. We venture to believe, on the contrary, that one of the chief defects of the German civil code and its various successors is the very quality of brevity and literary unity. It is entirely beyond doubt that for the purposes of our law a code of literary abstractions would be fatal for reasons already stated. It would deserve to fail for the further more important reason that such a code cannot be sufficiently definite for practical needs, not of course, of the layman (since the Benthamic ideal is unattainable), but of the lawyer. The practical ideal will fall between the exaggerated abstractness of the later European codes and the exaggerated concreteness of an American digest.

10. *Extension of the natural basis of classification.* Rights are created, altered, and destroyed. Treatment of these matters in detail will constitute a vertical extension of each of the basal topics. This may be shown in the form of a diagram.

TABLE NO. 2

Chattels

Own		*Other*
Creation	...	Creation
Alteration	...	Alteration
Destruction	...	Destruction

It must be noticed that here we are dealing not with the chattel itself but with rights concerning it. For example, a right in a chattel may be created by occupation or by specification. Occupation would be treated under creation, but specification would point both to creation and to destruction of rights—creation in one person and destruction as to another. This feature will suggest the addition of another term, Substitution. Under this latter title will fall the subject-matter of Sale. But sales under legal process will be distributed at another place in consonance with the working principle that the accessory element follows the principal element.

Rights also may be created in a chattel owned by another, as by pledge or mortgage. These rights may be completely destroyed or may pass by assignment to another. The last operation likewise demands the additional title, Substitution. In accordance with views already stated, the vertical extension of topics will include not only the rights which look to an undisturbed condition of existing facts, but also rights which have for the object a change in existing facts, so far as such latter rights are accessory to rights of ownership or of possession in the same person. In juristic parlance, rights to performance are included if they are homomeral in relation to rights of ownership or possession. Warranty of title (express or implied) is an example. But where the right to a performance looks to a future ownership or possession, the distribution falls under Performances.

We come now to a horizontal extension of the subject-matter. There are two jural relations—Claim-Duty and Power-Liability. These ideas must now be incorporated in a historical (horizontal) sequence. The possessor of a chattel has a claim to the undisturbed condition of his chattel. This claim may be infringed either by trespass or by trover. We may illustrate this phase of the treatment by a diagram which shows a segment of the complete table.

TABLE NO. 3

Chattels

Own

Power-Liability

Claim-Wrong-Remedy

For example, A may trespass on the chattel. This is a wrong which creates a power of suit which affords a remedy. The jural series is in fact more elaborate than is shown, but the arrangement goes far enough, since the other terms are necessarily implied.

It will be observed that the Power-Liability series is separately stated. This is as it should be. An owner in possession of a chattel has the power to defend his possession and to recapture the chattel if detention in him is destroyed. This series should be treated first, and the claim series should follow.

The problem put raises another question concerning distribution. Should the remedy element be treated under chattels or should there be a separate division dealing with remedies? We believe the answer should be affirmative in both cases, with qualifications. Several ideas are here involved—Evidence, Pleading, Trial Practice, Damages, Judgments and Executions. The solution which we propose is that the features, if any, peculiar to the case should be stated in connection with the case, and that features in common with all other cases of wrongs should be arranged at another place dealing with questions of Evidence, Pleading, etc.

The solution adopted for this problem presents a qualification on the previous rule of including all accessory relations (*e.g.*, warranty of title with sale) under the treatment of the principal relations. The qualification amounts to this: When the accessory relation (*e.g.*, warranty of title) presents elements in common with warranty generally, only the features peculiar, if any, to passing title, should be considered at that point, and the inclusive features should be treated under the head of Warranty at another place. In this way the two solutions are consistent at all points. It is highly desirable, moreover, not to introduce into a scheme of classification exceptional arrangements even when powerfully suggested by convenience or tradition. The better plan is a few leading principles consistently followed, and the fewer these principles the more workable will be the result.

This method of development in vertical arrangements of creation, alteration, and destruction of rights and in a horizontal arrangement, claim, wrong, and remedy (including powers) is fundamentally a natural arrangement. It is governed by the principle that rules of law controlling the accessory elements, when common to other topics of the basal division, are to be gathered at another center.

The horizontal arrangement of claims, wrongs, and remedies will recall to the reader the famous classification made by Blackstone into Rights and Wrongs.

At this point our discussion must break to consider the important problems of legal classification with respect to the whole system.

11. *Public and private law.* The distinction between public law and private law goes back to Justinian and beyond. According to Justinian, "publicum ius est, quod ad statum rei Romanae spectat" ("public law relates to the Roman government"), and "ius privatum ad singulorum utilitatem" (private law relates to the rights of individuals). The distinction is not very clearly put, and there has been much discussion whether there is a useful distinction between public and private law, and if there is a distinction, what precisely that distinction is.[1] The terms themselves are misleading, but if, as we believe, a useful basis of distinction can be found, the terms must be kept, because no new terms could by any reasonable hope supplant them.

Law cannot in part be public and in part private. So far as these terms may be applied in their natural meaning, there can be no private law. Therefore, all law is public law. It will not be necessary to detail the various things that have been said on this matter, and we may at once pass to the distinction adopted here. But first, the basis of that distinction must be pointed out. In every State there are three orders of legal persons: (i) the State itself; (ii) officers of the government; (iii) subjects of the State. The State and officers of the government are public persons. Subjects are private persons.

The various possible jural relations that may exist among these three classes of persons are as follows:—

The State

A (1) State to another State.
(2) State to an officer of another State.
(3) State to a subject of another State.
(4) State to its own officer.
(5) State to its own subject.

Officers

B (1) Officer to a foreign officer.
(2) Officer to a foreign subject.
(3) Officer to another domestic officer.
(4) Officer to a domestic subject.

[1] Cf. Alimena, *Osservazione sulla distinzione del diritto in publico et privato* (1931); Donati, *Fondazione della scienza del diritto*, Parte prima (1929); Del Vecchio, *Lezioni di filosofia del diritto* (2nd. ed. 1932) p. 208.

Subjects

C (1) Subject to a foreign subject.
(2) Subject to a domestic subject.

No system of law, ancient or modern, has special terms to indicate all of these possible classes of relations. We shall not attempt here to deal with the problem of terminology as to this matter beyond the terms ' public ' and ' private '.

Still another point must be noticed. In these permutations the person first named may be either the dominus or the servus of the relation. Does this feature bear on the problem ?

The above enumeration of relations may be simplified by eliminating all foreign elements except the first (A 1) as follows :

Relations

(1) State to State.
(2) State to its own officer.
(3) State to its own subject.
(4) Officer to another domestic officer.
(5) Officer to a domestic subject.
(6) Subject to a domestic subject.

Examples are hardly necessary for these classes, but a few will now be given. A judge (an officer) owes the duty to the State to administer his office without corruption. A subject owes the duty to the State to obey the criminal law. An officer (*e.g.*, a treasurer of public moneys) may have a claim against an officer (*e.g.*, a collector of taxes) to pay over money or to do some other act. An officer has a power against a subject (*e.g.*, to levy an execution, to arrest, to prosecute, etc.). A subject may have a claim against an officer (*e.g.*, to issue a summons, to levy an execution, to decide a lawsuit, to sign a bill of exceptions).

The State is a mere symbol, but a necessary one, and it would seem that it can have only claim relations in domestic matters. Apparently a State has no jural powers. An officer may have claims and powers against another officer, but an officer has no jural claims against a subject, since all governmental duties would seem to be owing to the State alone. (It is interesting to note here that what the State lacks in power is compensated by its jural capacity for claims.) Subjects have no claims or powers against the State, but subjects may have claims (but not powers) against officers. Subjects have claims and powers against other subjects.

It is obviously possible to make various distributions of this subject matter, but it would appear to be most convenient to restrict the field of private law to the relations of subjects to subjects. All the rest will fall under public law.

A distinction probably will be necessary in the method of classification of public law and of private law. For private law we have above suggested a kind of *systema naturae* based on the subject matter which is the basis of private jural relations. That same basis would not be convenient for the division of public law. The State is a conceptual reckoning center for the attribution of the locus of sovereign jural authority. The State, as such, cannot act. It relies upon the government for the purpose of governmental action. Public law, therefore, is a matter of functions of acting rather than a matter of lands, chattels, etc. A classification of these functions has elsewhere been attempted.[1] It will obviously include legislation, adjudication, civil and criminal procedure, administrative law, fiscal and military matters, and others. The problem of classifying public law on the basis of functions will be comparatively easy as contrasted with the difficulties of classifying private law, and in this discussion, therefore, the emphasis is on the problems of private law.

12. *Theory of the General Part.* In American digests and encyclopedias this division is not recognized for the purposes of external classification. Sometimes the term General Provisions and the like are found. A General Part always stands in contrast to a Special Part. If one can discover the functions of the General Part it probably will not be necessary to consider the Special Part, since it will discover itself by exclusion.

The terms 'general' and 'special' are highly unsatisfactory in lacking precision of meaning as ordinarily used. When used to convey the meaning of genus and species, these terms have an accurate formal scope, but in the law that meaning very rarely is intended. It is probable that the meaning is a shifting one in various applications, and our object here is to find what these terms mean or what useful function can be assigned to them as divisions of the law.

There seem to be two views concerning the function of the General Part. One view is that its purpose is one of introduction, dealing, for example, with the sources and forms of law and with statutes and their interpretation. Another view, adhering to the etymological origin of the terms, is that the General Part should contain the so-called general principles of law treated in detail in a Special Part.

We believe neither of these views expresses correctly the functions of the General Part as determined by the needs to be served in a classification of law. There is need, no doubt, of an Introductory

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[1] Kocourek, *Introduction to the Science of Law* (1930) p. 110. 'The powers or functions of government are the following: (1) Organization; (2) Legislation; (3) Adjudication; (4) Police; (5) Revenue; (6) Operation; (7) Administration; (8) Military; (9) Representation.

Part to lay down the foundations of law. That Introductory Part should embrace, such matters as constitutional law, details concerning the boundaries and divisions of the State, details of the complete governmental structure, a description of the sources of law, and the methods of interpreting the law. The Introductory Part has nothing in common with a General Part scientifically organized. The Introductory Part should be preliminary both to Public and to Private law, but each of these latter divisions will require its own General Part. The arrangement suggested, therefore, will be as follows:

LAW

Introductory Part

PUBLIC LAW	PRIVATE LAW
(1) General Part	(1) General Part
(2) Special Part	(2) Special Part

The view that the General Part should serve the purpose of setting out the 'General Principles' of a succeeding Special Part is fallacious. There are no general principles of law. There are numerous generalizations of rules, such, for example, that no man can give more than he has, which have no part in an official law book. Such generalizations are never universal; they cannot be reliably used; and since they are only mnemonic approximations to rules and not in themselves rules, they have no place in an official statement of law, however useful they may be in non-official treatises.

But if the General Part is not to function either as an introduction or as a generic guide, like a map with the principal highways and the most important geographical positions, then what are the functions, if any, it has? To answer this question we must first premise that views on classification of law have for centuries been colored by various figures of speech. Implicitly it is a prevalent notion that the subject-matter of law is like objects which may be laid out on a line, one after another. The object has been so to arrange these numerous items that other intersecting lines could be drawn at various points to indicate a separation of subject-matter into classes, arranged, however, in a linear series. We have followed that idea in a linear arrangement of the subject-matter of Private law, but when we come to the task of assigning legal rules to these various linear divisions, we will find that certain ideas occur for all divisions, and that certain other ideas less fundamental occur in two or more divisions but in less than all.

Continuing with the geometrical figures of speech we find that the subject-matter of law cannot economically be represented by

a line, but that since there are cross-divisions that occur with greater or less generality, our geometrical figure must be represented rather by a plane.

For example, the ideas of personateness, capacity and acts occur universally. On the other hand, such ideas as juristic acts, agency, duress, etc., have more limited applications. Thus, the claim of corporal integrity is not affected, nor can it be, by agency, since that claim does not fall within the agency concept, though the larger term 'representation,' which includes servants as well as agents, would seem to have universal application. But it may be noted that all cross-division ideas probably intersect all of the vertical divisions at some point in their extension. Thus, whether the dominus of the claim to corporal integrity suffers an actionable wrong, may be affected by the question of voluntary or involuntary conduct of the supposed wrongdoer.

The function then of the General Part is not introductory, nor is it that of generalization. The class of ideas which should enter into the General Part are those which bear on two or more divisions of the ultimate classification. Mechanically there are two means of dealing with the specific problem: (i) the General Part may be restricted to the cross-division ideas which have universal application; or (ii) the General Part may include, in addition to cross-division ideas which have a universal application, also those which have a plural but not a universal application. If the first method is adopted, then each vertical division must have its own distinct General Part.

The plan of the German Civil Code adopts the second method; it has one General Part, but it does not have divisional General Parts. The Japanese Civil Code adopts the first method. There is a General Part (Book I), and the books on Real Rights and on Obligations each have their own General Part, under the label of General Provisions. The theory of dealing with this question is far from clear. For example, it is very difficult to account for the detail of offer and acceptance in the General Part of the German Civil Code. The arrangement on this point of the Japanese Civil Code seems to us clearly preferable. All codes suffer from the lack of clear and consistent logical analysis, although the recent codes in this matter represent a very distinct improvement over the classifications which preceded them. This is due primarily to lack of knowledge, not practically attainable, of the precise range of legal rules in their application, in so vast an institution as the law.

The relation between the General Part and the Special Part may be shown by a typical diagram, as follows:

PRELIMINARY DIAGRAM OF PRIVATE LAW

General Part.	*Special Part*								
	BODY	MIND	REPUTATION	LAND	CHATTELS	IMMATERIAL OBJECTS	RELATIONS	PECUNIARY CONDITION	PERFORMANCES
Personateness									
Capacity									
Acts									
Intention									
Negligence ...									
Malice									
Fraud									
Accident									
Mistake									
Duress									
Privilege									
Consent									
Estoppel									
Waiver									
Ratification ...									
Warranty									
Repudiation ...									
Rescission... ...									
Condition									
Abandonment ...									
Representation ...									
Etc., etc.									

13. *Normal and abnormal persons.* The question of how to arrange the law with respect to abnormal persons, *i.e.*, persons whose capacities differ from those of legal persons of full age (*e.g.*, minors) without physical defects (*e.g.*, deaf or dumb persons in Roman law), without mental defects (*e.g.*, lunatics), etc., is one that has troubled classifiers from the earliest times. The Roman solution was to deal with abnormal persons in a separate division of the law, under the title ' iura personarum '. It is not necessary here to enter into a discussion of the terms. We need only to recall Blackstone's divisions of Rights of Persons and Rights of Things, which is based on the same misfortune of terminology.

In each one of the basal divisions the divergency between normal and abnormal persons is important enough to require a systematic method of treatment. The problem reduces to this : are the bodies of rules concerning infants, lunatics, married women, aliens, etc., to be treated : (a) as a cross-division (*i.e.*, in the General Part); (b) as exceptions to the rules in the Special Part in immediate

connection with the rules; or (c) to be gathered at a special place as an appendix to the Special Part.

In the German civil code abnormality of disposing capacity is treated in the General Part; the subject is again mentioned under the separate title of Agency (in the General Part); it again appears in the main division of Obligation, under the title Unlawful Acts; and finally, it is found once more in Inheritance, under The Making and Revocation of Wills.

In Corpus Juris, abnormality is first allocated to Persons, and then it reappears under each of the principal titles.

We believe these practical applications indicate in essence the line of direction of the scientific solution. Abnormality should be treated as a cross-division (*i.e.*, in the General Part) for matters of definition, and under Capacity for the rules which apply to all the divisions of the Special Part (*i.e.*, capacity for Claims, Duties, Powers, and Liabilities). Finally, the subject will be treated in detail at the appropriate place in each of the divisions Special Part, but so far only as the ultimate statement is a departure from the rule stated in the General Part. Thus, for example, the rule stated in the General Part may be that "no minor shall have capacity for a contractual duty". But at the proper place in the Special Part it may be necessary to say that "a minor, who by misrepresentation of his age which is not contradicted by facts reasonably knowable, induces another to part with anything of value which is consumed in use or assigned to another, shall be liable, etc." Again, it will be necessary at another place to deal with the duty of the minor to pay for necessaries.

The example put raises another important question concerning the relations of the General Part and the Special Part. May the rule in the General Part be less inclusive than the concrete rule as found in one or more applications? It seems to us that this is the most convenient way of dealing with the matter. It gives flexibility to the General Part, in that it does not require the draftsman to inspect the hundreds of concrete instances in one or more of which a new application may be shown. It avoids the need of stating the collateral exceptions when the general rule is given, which will give the code the appearance of unnecessary complications. The whole matter will be controlled by the easy method of construction, that every rule found in the General Part is modified by the concrete affirmative rule stated in the Special Part. If nothing is found in the Special Part to modify the general rule, it stands for all applications.

There is a qualitative and especially a quantitative distinction between this procedure and that of stating so-called "general

principles." General principles are of no value, since they are integrally contradicted by numerous special rules. The greater the number of these contradictions, the greater is the unreliability of the supposed principle; but, on the contrary, a general rule may be so stated as to require non-contradictory supplementation, as the above example shows. The contrast is between contradiction and supplementation. A code should never be contradictory in any of its divisions. Another way of putting it is to contrast exceptions as direct or collateral. Direct exceptions are inadmissible, since they are contradictory; but collateral exceptions are inescapable, and they are unobjectionable, since they do not contradict a rule already stated, but supplement it.

14. *General Law and special law.* The terms 'general' and 'special' cannot have a precise logical delimitation except on the basis of genus and species. The logical meaning is not the one denoted by 'General Law and Special Law.' We have already pointed out the special meaning of the terms 'general' and 'special' as applied to the divisions of law. We have shown that the subject-matter of the General Part deals with an entirely different juristic subject-matter from the Special Part. These two subject-matters, to use a figure of speech, are the aspects of a plane. To use still another figure, the topics, land, chattels, patents, etc., are the nouns of classifications of private law, and the estoppel, warranty, rescission, etc., are the qualifying adjectives of classification.

We now deal with an entirely different meaning of the terms 'general' and 'special'. Here the subject-matter called Special Law is a linear extension of the same rules of law to new fields of application. It must be emphasized that the distinction is not one based primarily on any ideas of formal logic, but is based rather on historical relativity. Each of the basal divisions of private law (*e.g.*, land, chattels, etc.) is a special field in contrast with the surrounding fields of law. Since that is true even of the basal divisions, it would seem to be impossible to draw any sharp logical line of separation between General Law and Special Law. Speaking broadly, the departments of General Private Law are the older crusts of legal geology. The rules of law dealing with the protection of the human body, the mind, reputation, of land and chattels, and of pecuniary condition, of existing domestic and contractual relations, and the security of expected performances, are the ideas which are the earliest to appear. With the growth of economic industry, new fields of law have developed which have generated new layers of legal rules superimposed upon the older and deeper crusts of social and legal life. One of the earliest illustrations of the point is the development of commercial law. The law of

bailment is General Law, but the law of negotiable instruments is Special Law.

The idea of a distinction between General Law and Special Law was, we believe, first suggested to jurists by the evolution of new fields of law arising out of commercial custom, but the idea may have a very useful extension by including other departures created by statute (*e.g.*, Workmen's Compensation). It may have a much wider extension to include not only such special fields as Church law, but also some of the older fields which have become highly specialized, with a content (a) dealing with a few ideas of the subject-matter of the basal categories in a unique way (*e.g.*, Trusts); or (b) dealing with a a combination of the older ideas in a special way (*e.g.*, Inheritance); or (c) dealing with the older subject-matter by rules modified by economic function (*e.g.*, Corporations). The historical reason of the distinction is also fortified by the demands of convenience. The only reason for separating the treatment of land from chattels is the extent of the differences in the rules that respectively apply to them. The same canon of classification may be applied to the fields of law which have developed either by statute, custom, or otherwise unique differences which require independent treatment. When these differences reach a point of development where they attain sufficient proportions to make it inconvenient to deal with them in terms which can be co-ordinated with the parent group or groups, then that new field has reached the stage of independence for the purposes of classification.

Therefore, the basal categories need to be supplemented by the fields of Special Law, and an outline of the system showing this extension may be illustrated as follows :

LAW

PUBLIC LAW

PRIVATE LAW

(1) General Law
(2) Special Law
  (a) Family Law
  (b) Inheritance
  (c) Trusts
  (d) Corporations
  (e) Public callings
  (f) Negotiable Instruments
  (g) Trade relations
  (h) Admiralty
  (i) Workmen's Compensation
  Etc.

The rule of special law for its own application will control any earlier rule by way of supplementation. Integral conflict should never exist, but since such integral conflicts will inevitably appear, the rules of construction in the Introductory Part must anticipate them. For example, the General Part may state a rule of estoppel or of waiver which may present an ambiguous situation in connection with the special application. The rule suggested is that the special rule, if logically contradictory in litera legis, should control, but if open to reconcilement by elimination of implied contradiction, should submit to the general provision.

It is obvious that the field of Special Law is a very extensive one, and that at this time in bulk and item it proponderates over the field of General Law. Moreover, the field of Special Law is constantly growing.

These facts may suggest that the content of law, however we try to arrange it into categories, succeeds in spite of our efforts in remaining independent of categories and in existing as a mere series which can be most conveniently dealt with by the alphabet. There is a certain amount of truth in this reflection, but yet it is sufficiently short of the complete truth of the matter as to make a very great difference for practical purposes. If the subject-matter of law were a mere series, then there would be no rule of law applicable to more than one element in the series. This point of view is being urged by those who, if we rightly understand them, are advocating the need of a functional arrangement of law. Perhaps the argument may be met in this way : Let it be admitted that no two particles of sand or gravel lying on the seashore are precisely alike in any point of comparison. These particles of sand and gravel correspond to legal phenomena. These individuals, while differing each from the other in every point of comparison, have no meaning for us except as functions of our own life. In ensemble, they create for us the emotions of beauty in various ways. From the standpoint of science, when considering their geological origins and the effects of centuries of erosion, we do not think of these particles as individuals, but as a group or groups of matter. In the building arts these individuals will be very roughly dealt with. Screens will separate them into a few varieties which will determine their industrial destination.

Therefore, the insistence on uniqueness can be either misplaced or exaggerated. Legal phenomena are unique as compared with other like phenomena. Each has its own differences. But legal phenomena also have another meaning as being functions of the social life in which they appear. As such functions they must be grouped and classified.

Yet, even though it may be supposed that the need of grouping has been demonstrated, the fact still remains, it may be offered, that these groupings, as shown above, are not purely formal but are natural. It would not be convenient here to attempt to consider the logical problems involved in the distinction between a formal and a natural classification, and since it appears that the corpus juris must deal with a great variety of subject-matters which cannot be always easily envisaged as constants in a pre-ordained scheme, it may be conceded that the whole classification should be supplemented by an alphabetical index. Manifestly there is a great practical difference between a book of science, art, or history compiled on an alphabetical basis and an index of the same work in an alphabetical series. If such a book would be regarded as a monstrosity by everyone if put together alphabetically, so likewise would a code be an unshapely monster if constructed on such a basis. In a word, an alphabetical index is admitted as a convenience, but an alphabetical arrangement of subject-matter is wholly repudiated as impossible of accomplishment.

15. *Recapitulation.* It will be useful to consolidate the findings reached at this point.

Private law and public law. The whole field, in accordance with an ancient tradition, which is fully justified in convenience and in logic, is divided into Private Law and Public Law. Private law deals with the relations of private persons to other private persons. Public law deals with the relations of public persons either to other public persons or to private persons.

A natural basis of categories. Having divided the field on the basis of relations of the kinds of persons involved as public or private, our next inquiry is to discover what these relations deal with. For Private law, we look to the objects to be attained by these private relations. What these objects are may quickly be discovered by an enumeration of economic and other factual values. These values are separated into some nine distinct groups which in turn may be rearranged into five more inclusive groups, beginning with the human body and its qualities and ending in services to be performed by others.

For Public law, the basis of enumeration is not the objects of the relations in terms of economic realizations (as in Private law), but of types of performance. The reason for this departure needs a word of explanation. The final object of law is the realization of freedom to exert one's natural faculties in the external world by contacts with natural objects. The object of government is to render services so that the ultimate freedom of human beings may be furthered and realized. The subject-matter of Private law is the

primary level of law. This subject-matter existed before the State emerged in conscious and definite form. The whole purpose of government is to minister to the needs of the human beings in direct contact with interests. Public law, both historically and economically, is a sound development based on the idea in modern times, of service. Since these two levels are different, and especially since the levels of Private and Public law have different economic purposes, the basis of arrangement of their respective subject-matters must be different. Summarizing the differences, the purpose of Private law is to create the machinery for consumption of human interests; the purpose of Public law is to create the machinery for facilitation of consumption.

Extension of the categories. Having arrived at the basis of division and of arrangement, we must next deal with the evolutionary element which affects the subject-matter. This evolution is either normal or abnormal. Rights are created, altered, and destroyed in a normal way (*i.e.*, without illegality). Thus, human beings are born and die; their rights are created and destroyed. Lands and chattels may be transferred. Debts will be paid. All of these activities dealing with basal subject-matter are normal (*i.e.*, lawful) manifestations. But there are also unlawful (abnormal) manifestations affecting the subject-matter. These unlawful manifestations present a horizontal series at right angles to the normal series.

The contrast between the normal and the abnormal evolution of the rights which have for their subject-matter the natural categories may be shown by the following diagrams:

PRIVATE LAW		PUBLIC LAW
Rights	*Wrongs*	*Remedies*
Creation		
Alteration		
Destruction		

Here the normal extension is produced in a vertical column and the abnormal extension is shown by a horizontal series. It will be observed that when an abnormal series is encountered a contact is produced with Public law, while, when the extension is normal, the series falls entirely in the domain of Private law. Thus, the statute of frauds falls in the division of Private law, while the statute of limitations falls in the division of Public law.

The General and the Special Part. The next important feature is recognition of the essential distinction between the General Part and the Special Part. These parts are not related as genus and species, nor is one part in a technical sense introductory to another. They are cross sections to each other affecting the same subject-matter.

When one inspects a considerable number of legal rules it will be found that they fall into two groups : (a) those that are unique and concrete, and (b) those that apply to two or more unique situations. Thus, the right of corporal integrity is limited by the fact of birth and survival, but the capacity to have rights will embrace not only the right of corporal integrity but all other rights as well. The idea of capacity, therefore, will be treated once and for all, and being so treated will not require constant repetition in each unique enumeration. There are probably a score of ideas which properly fall into the General Part because of the general applicability to rights, either in a normal or an abnormal extension. Each special division may have a General Part of its own, if ideas are encountered that do not have a universal application to all the divisions affected by the principal General Part. The need of such divisional General parts is not imperative but each special division will require an Introductory part dealing with definitions. The Introductory part (not to be confused in functions with the General part) may also usefully employ a scope note and a table of cross-references. These latter features will be especially desirable if there is no complete alphabetical index, and, even with an index, will be a facilitating device.

No effort can be spared in these directions, and such efforts will tend to point out deficiencies and inconsistencies in the code as a whole. The legislative tradition with us is not favorable to methods of facilitating the search apparatus, and the public draftsman, on these points, can learn many useful lessons from the editors of digests and encyclopedias. There is another tradition with considerable vogue and some outside support, to the effect that the draftsman may let a great deal of obscurity and ambiguity find its way into his work. As to this, it may be put down that any legislative text which requires litigation to fix its terms is a symptom of incompetent drafting. There will always be plenty of litigation growing out of fraudulent and honest disputes about fact situations, without adding to the flood an added inducement of controversy because of the legal elements.

General and special law. The contrast is primarily historical or economic or both. As economic conditions change, new fields of special law spring up. As to the matter of arrangement, the basis of choice is, in the first instance, not one of logic, but of convenience. It is clear, of course, that such a topic as Admiralty, or Bankruptcy, or Negotiable Instruments, or Workmen's Compensation, must be specially treated, but the encyclopedia and text-book precedent will not do at all for a corpus iuris. It is, of course, in some respects, and especially as our law now stands, a great convenience to have available a text-book on Automobiles, or Explosives, or Auctioneers,

or Dentists, but this method, as shown most extensively in our encyclopedias of law, of dealing with each economic pursuit and profession in detail, would be the negation of a code. The clear test for the treatment of any topic outside of the nine basal categories of private law, is that the rules of law relating to that topic are unique (*i.e.*, different), and are of sufficient number to justify a satellite system. If they are not unique, and are simply manifestations of the rule in a special instance, and if, though in part unique and not of sufficient bulk to justify a multiplication of topics, the divergences may be noted as exceptions at the proper places.

The question of scope of the General Part has its analogue in the problem of distribution of the law of Normal and Abnormal persons, and in principle the method of solution is the same for both cases. We have already suggested that Anglo-American codification probably will not be imitative of the European models in point of conciseness. We believe, however, if it were possible without too serious a conflict with the nature of our legal sources and our professional habits, that it would still be inadvisable to set up as a practical ideal for this age, the most ultimate form of legal statement which inevitably would be cast in a terminology quite different from that to which lawyers in general are accustomed. A workable means must be found between ultimate formulas of law and the superabundant concreteness and repetitions of our professional digests and encyclopedias. Classification is not an end in itself, and if clarity and workability can be attained by considerable bulkiness in the drafting of the code, that evil must be suffered, awaiting the time when legislative science and professional training have reached the level where better draftsmanship is possible.

There is current in certain quarters a belief that a great deal of particularity is necessary in constructing a code, on the ground that each factual situation is peculiar in itself and calls for a unique judgment. There are different kinds of legal rules. Most of them, when ascertained, admit of no discretionary manipulation, but many others do admit of discretionary application. The view assumed is correct, so far as concerns discretionary rules, but when opposed to the proposal of codification or as requiring an infinite amount of detailed particularity, it rests on a confusion. The code is one thing; the application of the rules is another. The physician cannot alter the laws of nature underlying his science, but like the judge, must use his discretion in how these laws of nature are to be invoked and applied. As to the rules themselves that obtain at any given moment of time, we believe that the extent of divergence, as conditioned by family, occupational, and professional relations, from the normal pattern applicable to persons generally, is much exaggerated. The contrary

view is the result of habits of work produced by the nature of our professional apparatus and our professional traditions. The logical methods of subsumption and analogy are known to us but are always looked upon with more or less distrust. The problem suggested is one which will require a great deal of skill and understanding to find the right line of adjustment adapted to our needs and abilities. A good deal of experience is already available in America in the operation of numerous uniform State acts. The flood of litigation that brings into question the statements of law found in these drafts is an ominous symptom.

16. *Some specific problems.* Numerous additional questions may now be raised dealing with the problem of distribution. We shall instance only a few which are typical of the rest. The value of any framework of classification is best tested by problems of distribution. If the task of distribution is impossible of accomplishment or even very difficult, it may be reliably assumed that the system is defective in point of construction.

Statute and common law. There are two solutions: (a) to put statute law to one side, and (b) to attempt to combine statutory rules and common law rules. Since a code is itself a statute, the preferable solution is to attempt a combination. This will generally require a distribution of subject-matter. For example, the Workmen's Compensation Law has various separable features: the organizative structure (Introductory Part); procedure (Public Law), and the substantive rules of compensation (Special Private Law). Assuming no governmental obstacles, it would be desirable if all statutory law were overhauled and redistributed on a uniform plan. The result would parallel the experience of other countries, and in the end we would have at least a dozen distinct codes.

Law and equity. These divisions would enter both into Public and Private law. Naturally, in this discussion we are not considering the question of unification of law and equity either procedurally or substantively. We take the system as we find it. This presents the problem of arrangement. Shall equity and common law be entirely separated as distinct systems in separate codes, or shall they be united in some manner in the same code? The view taken here is that they should be brought together, but without confusing them. The problem here is no different in principle from that of plural remedies at law. Equitable rights, wrongs, and remedies may be treated in parallel series with respect to each topic under consideration. Such treatment will have the great advantage of presenting each idea clearly and completely.

Conflict of law. This major topic enters into all the basal categories. Since it involves the body of rules which determine the choice

of rules, it would seem that the leading features of this topic should fall into the Introductory Part alongside of interpretation of law. The same considerations that govern the distribution of Agency, discussed below in more detail, will in principle apply here. All the rules that apply without exception to all the specific titles must be gathered in one place. No subject-matter should be introduced that belongs to the General Part. All exceptional rules should be allocated to their own special subject-matter (*e.g.*, Land, Chattels, Performances, Special Law). The base of these determinations are the two canons of distribution : (a) to avoid repetition ; (b) to proceed from the general, not to the special (since that distinction is repudiated), but to the exceptional.

Damages. This is a topic of Private law and not, as is sometimes supposed, of Public law. The rules of damages are rules of substantive law and not of instrumental law. The confusion as to the proper distribution of this topic, no doubt, arises from the fact that damages are awarded by courts, but all application of rules is judicial. So far as these are governing rules which are applicable to all cases without exception, such rules are to be treated in the General Part. Exceptional rules should be treated in connection with their appropriate subject-matter. As to this method of distribution, it may be remarked that it would not in any instance be a fatal defect if the General Part does not have universal incidence and if the correct rule is stated in connection with the special subject-matter, since we take it that the proper method of construction (to be stated in the Introductory part) is to proceed from the General Part downward, where the specific application will be controlling. On the other hand, it will not be a fatal defect if the concrete application of the rule is not a true exception, but is consistent with the General Part. The only evil here is redundancy, and it may well be that in the earliest attempts at codification, this evil in concession to professional habits or out of caution, will often be encountered. The precise locus of distribution of Damages will be after Wrongs. Shown in detail, the classification at point will be as follows :

WRONGS
- Legal claims
- Equitable claims
  - Damages
  - Other relief
- Legal Powers
- Equitable powers
  - Extra
  - Judicial
    - Judicial
    - Remedies

Agency. Since it is obvious that the basal categories (land, chattels, performances, etc.) cannot logically include Agency, this topic must be classified elsewhere. It is excluded from the Introductory Part, and falls therefore into the General Part. The problem of primary allocation is readily solved, but various other questions

remain as to what matters should be included. Some of these questions are easily disposed of, but others present some difficulty.

Agency is a power-liability relation, but accompanying this relation are various quasi-contractual duties borne by the principal or by the agent. Based on the principle already employed in another connection, of including the directly accessory elements with the principal element, it is clear that accessory relations should be treated under Agency, subject to the limitation above stated.

Normally, business dealings resulting in agency are accompanied by contracts. In this instance the accessory contract relation is indirectly accessory, and therefore such contractual relations should be distributed under Performances.

The relation of Master and Servant commonly coincides with Principal and Agent. These relations are juristically separable, although the ground of separation has not found universal acceptance. Each writer dealing with this distinction has constructed his own test. We shall not be concerned here with any particular test, and it will suffice to say that since a separation is recognized by every specialist, the task of separation must be resolved. The difficulty on this point is no greater or less than that of Independent Contractor and Servant, but the separation must be made even though the solution is analytically abortive, since for legal purposes the differences are highly important. The point of the matter is that the law of agents and servants must be separated. So far as these two fields have elements in common, these common elements may be treated under another division of the General Part tentatively described as Representation.

Agency has contacts with nearly all the basal categories (*e.g.*, land, chattels, performances, immaterial things). If there are any features, let us say, for example, in land agency peculiar to that topic, how shall we classify—under Land or under Agency? Employing here again the leading principle of accession (but here in its negative aspect), the solutions clearly give preference to Land over Agency.

In Corpus Juris and also in the American Restatement (ALI), there is extensive treatment on the construction of agency powers. This, we believe, is an erroneous distribution of the subject-matter. The effect of so-called juristic acts, whether produced by oral or written conduct, is another preliminary cross-division topic. That topic will include features common to numerous special fields. If, however, there are features of the matter unique in Agency, these features, of course, must receive special treatment. If there are no such unique features, the method of repetition at each of the numerous points (including Agency) will engorge the code. For

reasons already sufficiently considered, this logical repetition may for this age be unavoidable.

In Agency, to a certain extent, it is necessary to treat torts arising as incidents of contracts made by the agent within his actual or apparent authority. For these cases a brief statement in small compass will accomplish all that is needed. It would not, for example, be necessary to repeat all that has been said elsewhere concerning the nature of Deceit and the remedies, once a statement is made of the conditions which make the principal responsible.

What has just been said, in effect, disposes of questions concerning damages, pleading, and practice. These are separable topics, and the Agency topic needs only to make a point of contact with them by stating the immediate legal consequences in ultimate terms, of agency acts, with the recurrent exception that any features of these other topics which are unique in agency relations must be treated along with the main topic. The practice of text-books and encyclopedias in these matters cannot be followed, although here, as elsewhere, they must be recognized as having accomplished a great pioneer labour which will greatly facilitate the construction of a compendious code.

Agency will also suggest various topics of special law which will fall into a Commercial code. Among these are Auctioneers, Brokers, and Factors. Attorneys-at-Law also fall in the field of Special Law, but not, of course, in the Commercial code.

17. *Internal classification.* In the foregoing discussion we have been concerned chiefly with what is called External classification, *i.e.*, an arrangement of the divisions of the subject-matter in relation to other divisions in the same system. We come here to Internal classification, which has for its purpose the organization of the subject-matter in each of the divisions. We have already shown two of the processes of Internal classification. The first process is that of accounting for the creation, modification and destruction of rights connected with land, chattels, etc. Each of these rights (claims and powers) must be systematically treated in each of the phases of creation, alteration, and extinction. The first process deals chiefly with a normal evolution of rights from beginning to end. The second process of elaboration is to treat the abnormal evolution of rights systematically through the series of Rights, Wrongs, and Remedies. The normal evolution preferably will come first, to be followed by abnormal evolution for each topic in regular order.

It is obvious that next only, if at all, subordinate to an orderly arrangement of the divisions of the law, an orderly treatment of each of the external divisions is necessary. The external arrangement

might in itself be perfect and yet fail completely because of defective organization of the contents. The two processes of dealing with normal and abnormal evolution are the leading ones, but for a complete elaboration of the subject-matter, another mechanical process must be employed, exhausting in each particular instance all the permutations of statement of the rule.

The factors of this mechanical method are indicated by the following words : (1) What ; (2) Who ; (3) When ; (4) Where ; (5) How.

Suppose, for example, we are dealing with the topic of Corporations, the method of proceeding will be as follows :

What ? This raises the question of what precisely is the matter to be treated ? *What* is a corporation ? *Who* can form a corporation ? *When* can a corporation be formed (*i.e.*, when does corporate life begin ?) *Where* can a corporation be formed ? (*i.e.*, what is the ambit of it ?) *How* can a corporation be formed ?

Next, we must analyze under What, the legal relations that are to be treated. We will find that there are promoters, shareholders, directors, officers, and outsiders. Each of these groups may have relations with each other group and to the corporation itself. At this point, for each relation, the whole series must again be exhausted.

Next, we must analyze the various specific relations of each of these relational groups for which a pattern already is provided in the basal divisions of Private Law, under which grouping the topic Corporations appears as a variety of Special Law.

So far as necessary the same topics must be treated when a corporation is defectively organized. The topic of defectively organized corporations is the analogue of abnormal persons. This topic also will suggest the domestic legal situation of a foreign corporation.

All of these features must be examined in detail for each of the phases of creation, alteration, and extinction of rights. Thus, for example, the alteration of a corporation's powers will suggest various things, such as receivership. Extinction will suggest winding-up proceedings, consolidation, and reorganization.

The method outlined is progressively permutative. This method cannot, without considerable additions detailing all the possibilities of each item, dispense with imaginative reflections on the field at each point to be treated, but so far as it goes it is applicable to all the divisions of the law, and systematically employed, will go far to avoid the lacunae practically inevitable without a prearranged plan of developing the field. The same method also will present systematically questions calling for decision as to arrangement in other divisions of the system. It should be noted that the

interrogative series may be commenced at any point, but the remaining interrogations must also be convassed.

While the interrogative series is simple in itself, it becomes highly complex in its range of incidence. Without any dependence on collateral ideas and sequences directly or indirectly suggested, it will be found to develop mechanically not less than fifty leading points of reference. The relation of the interrogative process to the basic operations in the internal elaboration of any given topic is shown by the following diagram :

INTERNAL CLASSIFICATION

	Claims—Duties—Powers—Liabilities	
Creation	What Who	Wrongs
Alteration	When Where	Sanctions
Destruction	How	Remedies

18. *Principles of classification.* As related to the proposal for classification above set out in general outline, the governing principles are the following :

EXTERNAL CLASSIFICATION

1. A separation of the subject-matter of law into distinct items as discovered in the experience of legal phenomena, based not on a juristic distinction of classes, but on a natural basis of the things perceived in economic life. This enumeration yields the frame of Private law. The frame of Public law is based on the functions of government elsewhere enumerated.

2. Isolation of all the distinct definitional elements, methods, and dynamic ideas which embrace plural divisions of the basal subject-matter. This division gives the contents of the General Part.

3. Carrying down to the Special Part all ideas of the General Part, which are not included or which are modifications of the General Part, without unnecessary repetition.

4. Distribution of legal rules on the basis of accession, *i.e.*, inclusion at one place of all legal relations generated by the same unique jural fact. Rules having plural applications ideally will proximately precede the subject-matter to which they relate without repetition.

5. Recognition of areas of Special Law when the departures from General Law have become organic or institutional, and are not merely random variations from the general pattern.

6. Separation into an Introductory Part of all the legal rules that operate organizatively on the other three divisions.

Internal Classification

1. Enumeration of all the modalities of legal relations as affected by the legal person, time, place, and circumstances, exhaustively applied, first, to the normal creation, alteration, and destruction of legal relations, and, second, to the abnormal creation, alteration, and destruction of legal relations and extended in the latter case to the progressive legal effects.

2. Use of the principles of External classification so far as applicable.

SYNOPTIC PLAN OF CLASSIFICATION OF THE LAW

I. General Introduction—Structure of Government, etc.

2 PRIVATE LAW	3 PUBLIC LAW
4 INTRODUCTION	5 INTRODUCTION
6 GENERAL PART	7 GENERAL PART
8 GENERAL PROVISIONS	9 GENERAL PROVISIONS
10 CAPACITY	11 CAPACITY
12 ————	13 ————
14 SPECIAL PART	15 SPECIAL PART
16 GENERAL PROVISIONS	17 GENERAL PROVISIONS
18 LAND	19 JUDICIAL REMEDIES
20 INTRODUCTION	21 INTRODUCTION
22 RIGHTS—WRONGS—SANCTIONS	23 LEGAL
24 ————	25 EQUITABLE
	27 ————

SPECIAL LAW

26 PRIVATE	29 PUBLIC
28 CORPORATIONS	31 TAXATION
30 ————	33 ————

Explanatory Note. The Table shown above is a skeleton table. It is unnecessary here to attempt to fill out the detail since the basis of a detailed apparatus is already available in the American Digest System. The blank lines are reserved for all the omitted items of the same topic. Thus, item 24 may be filled in with Chattels or Performances, etc. The items of Private Law have even numbers. The items of Public Law have odd numbers. The detail of the number system may be carried out on a decimal basis. In an actual code, the primary numbers would be employed in a different way. What is shown above, therefore, is merely illustrative of the method. The feasibility of a number system is shown already by the Key Number system of the American Digest System. As already suggested in the main text, the code may have a word index and it should also have a number index.

EVIDENCE IN HUMAN HISTORY

By A. M. HOCART

Progress in the understanding of man's evolution, especially his mental evolution, is being hampered by popular fallacies concerning evidence. The nature of evidence is the same in all walks of life. It is the same in the courts of law as it is in science ; only in the courts the rules of evidence are not usually distorted by prejudice and fanaticism, as they constantly are in science, especially the science of man which so often skirts the passions of politics and religion. We cannot do better then than begin our study of evidence in the courts.

They distinguish two kinds of evidence : the direct and the circumstantial. If a witness actually saw the murder and describes it, it is direct evidence. But it is rare that a murder is actually witnessed. It is then necessary to note every circumstance : the state and position of the victim, clues as to time, the movements of the victim and of the suspect, their conditions and characters, to interpret all these data in accordance with the laws of nature, especially human nature, and to frame a theory which explains them all, and to which there is no imaginable alternative. That is circumstantial evidence.

There is a popular, but natural, delusion that direct evidence is necessarily better than circumstantial, in fact that it is the only satisfactory kind of evidence. A learned judge in summing up a famous murder trial rebutted this opinion. He pointed out that direct evidence might be the weaker of the two : the witness might be lying or biassed ; his memory might be at fault, or his imagination be playing tricks. Even two witnesses might mislead. There are countries where fifty eyewitnesses all telling the same story could not be trusted. On the other hand when a hundred little details which no man could have premeditated or arranged all point in one direction, and one direction only, the certainty is as great as is ever to be attained in human affairs. No man has probably ever been hanged in the last hundred years on direct evidence unsupported by circumstantial. Many have been hanged on circumstantial evidence alone.

The historian as a rule shares the popular prejudice : he pins his faith to direct evidence, to the writings of contemporaries, to coins, to ruins. Circumstantial evidence he distrusts and even fears. He

clings to his direct evidence as a timid sailor to the coast. If any one proposes to strike across the sea with the guidance of compass alone he makes a virtue of his timidity, and converts it into a lofty superiority.

Even the physical anthropologist has been inclined of late to trust to the direct evidence of fossils to the exclusion of the circumstantial evidence yielded by living specimens. Yet he ought to know better ; for he has approached the study of human evolution, not from the side of history which has long been enslaved by its fossils, antiquities, but from the side of science which has long been familiar with circumstantial evidence. When a scientist sets up a working hypothesis he is doing under a grander name what the detective does who has no direct evidence.

Physical anthropologists might remember that Laplace outlined the history, not of man, but of the whole solar system, a history reckoned not in thousands, but in millions of years, outlined it without any records, simply from circumstantial evidence. He noted the nebulae, he noted the suns, he noted the dead stars ; these and many other things he supposed represented different stages through which our own solar system had passed. He found that he could in this way explain the present behaviour of the sun and its planets. The main lines of his nebular hypothesis still hold. It has been emended because it did not explain all the circumstances, not because there was no direct evidence. The details may have been questioned, but never the method. Both he and his revisers worked by the comparative method, though they may not have called it so. They compared the varieties of stellar systems, and tried to imagine some form from which they could be derived.

Biology itself has achieved its most notable successes purely by the use of circumstantial evidence. A biologist has recently declared : " Evolution itself is accepted by zoologists, *not because it has been observed to occur* or is supported by logically coherent arguments, but *because it does fit all the facts* of Taxonomy, of Palaeontology, and of Geographical Distribution, and *because no alternative explanation is credible.*" Biology, unlike astronomy, has something like direct evidence in the shape of bones and imprints of extinct animals. This evidence is called palaeontology ; but it is both inadequate and superfluous for the theory of evolution ; it has supplied welcome confirmation or amendments, has filled in details, but was never indispensable to the main theory. The theory of evolution was not based on palaeontology, but rather it was the other way round. Evolution provided a new use for fossils. It set men looking for them with greater zeal, because it gave them a worthier end than the mere collecting of specimens.

In no branch of biology has this been so much the case as in human biology. It had no palaeontology before Darwin. Or rather it did not realize it had. The first Gibraltar skull was discovered in 1848 : it passed quite unnoticed. *The Origin of Species* appeared in 1859. It was not till men had become thoroughly used to the idea of man's descent from an ape-like creature that the skull was brought out of its obscurity, having ceased to be a curio, and become a link in the evidence. It was not the direct evidence of a missing link that converted biologists. Rather, having been converted by comparative evidence, they set out to find direct evidence in the shape of fossil men in order to confirm their deductions and complete the confusion of their opponents. It took thirty-five years of *The Origin of Species* to set them really looking. Then Dubois went out to find the ape-like fossil and found it. Since then discovery has succeeded discovery, and the illusion of direct evidence has taken possession of the minds of anthropologists. One leading authority tells us that " for the *serious* study of race history those characters are of special value which can be distinguished in the skeleton, as we naturally know nothing about the skin and hair characters for prehistoric man save by the *risky* analogy from modern men." He forgets that it was on the " risky analogy " of modern species that Darwin and Wallace based their theory of evolution. They risked and they won ; for in science too faint heart never won fair lady.

I say the " illusion of direct evidence " because when we examine this direct evidence we find it is not direct after all. Not one of the skulls older than the Upper Palaeolithic represents an ancestor of ours. The anthropologist cannot say, " This skull represents our ancestors as they were 200,000 years ago, and this is exactly how they looked ". He can only say, " Here is a skull of an animal so like man that I must *suppose* him to be descended from the ape-like man which Darwin postulated. I suppose it because I have been converted to evolution by Darwin's arguments. I think it is the only theory that will account for all the facts, including the facts of this skull. By making this supposition I invest this skull with a new interest : it is no longer an isolated fact ; it is another pointer in my search for circumstantial evidence. That pointer helps to narrow the field within which I must look for the characteristics of the hypothetical ancestor ; it defines them more narrowly ". All these skulls are in the end so much more fuel for the comparative method. That is why they probably never have converted a single opponent of evolution. He who is not already a convert will never be converted by Pithecanthropus or by Piltdown Man. Rather the voluminous controversy that has grown up round these meagre

and uncertain remains has been eagerly seized upon by the fundamentalists to discredit the whole theory of evolution.

The craze for direct evidence has prevented a comparative psychology from developing. A beginning was made towards 1900. It was known, for instance, that individuals vary considerably in their colour vision ; that some cannot distinguish certain shades of green from certain shades of red. It occurred to the Cambridge Expedition to the Torres Straits to institute a comparison between races in this respect. Rivers found only one doubtful case of colour blindness out of 152 ; but later he found that 12·8 male Todas in every hundred are colour blind. A comparative survey of the world might enable us to draw inferences as to the colour-vision of primitive man. The method could be extended to other mental characteristics of modern races ; but there are no fossil sensations or emotions which we can touch and see, and so an age which confuses reality with visibility and touchability, which thinks a thing real in proportion as it is hard, will have nothing to do with a comparative study of the human mind. The mirage of direct evidence has lured the students of human evolution from one half of the human being, leaving the physical side unintelligible, for you cannot separate physical and mental.

It is in the evolution of culture that the cult of direct evidence has been carried furthest. That kind of evidence is, or rather seems, so abundant that there is no need for any other. There are manuscripts, inscriptions, pots, buildings, galore ; so the popular belief in the infallibility of direct evidence can be indulged to the full. This naive faith in the evidence of our eyes is all the more remarkable as the nineteenth century and the first quarter of the twentieth have been largely spent by historians in discrediting that very kind of evidence on which they rely. Niebuhr led with an attack on the early Roman tradition which had been accepted without question. But the critics were not long content with demolishing legends : they were soon emboldened to attack the great names among historians. Thucydides was a contemporary of the events he recorded and an actor in some. His testimony had never been doubted. Yet the liberal Grote convicted him of being a biassed Tory traducing the Greek democrats. Herodotus may be credulous, but his honesty has never been questioned. He based his narrative of the Persian Wars on the evidence of eyewitnesses ; but scholars infected by the fashionable scepticism went to Marathon to see for themselves, and proved on the ground that his account of the battle was impossible, and some even proved to their satisfaction that the Persians, not the Greeks, had won the battle. Moral judgments have been reversed wholesale ; heroes have been deposed, and Neroes

have been held up as model emperors. One wonders that after this orgy of scepticism any one should go on writing history at all. Many historians have thought to find more solid foundations in the hard material turned up by the spade. Inscriptions have been collected as a check on writers; but inscriptions are no more trustworthy than writings. They are seldom candid, and often inscribed by way of flattery or propaganda. They may record the sort of thing a great king would do rather than what he actually did; and they are silent about his failures. In any case they usually refer to events which seemed most important at the time, but which do not help us in the least to understand the evolution of culture. Pots and pans do not lie; but that is because they do not speak. Their chief use, apart from throwing some light on crafts, is to give us dates; but what is the use of dates without facts to fit into them?

No wonder that in despair many have turned away from history as a game of pure conjecture. They feel like a judge in an Oriental court after hearing fifty lying witnesses, and hopeless of ever fixing the right and the wrong of the case because his detectives have supplied him with no circumstantial evidence with which to check the statements. Those who still retain an interest in the history of man see no hope of ever tracing the evolution of his ideas, except in so far as they may be stamped on hard, imperishable things like bones or stones. They assure us that we shall never know the beliefs of Neolithic Man, because beliefs do not get petrified. We can touch skeletons and so we may get some idea what their notions of death may have been; but how can we ever know what their social organization was like, or their marriage and birth rites, which do not get solidified, and so yield no direct evidence?

The fact is when they say we can never know, what they really mean is they cannot see the way by which we can know, so they do not think any one else can, which is rather an arrogant assumption. They should remember that Auguste Comte once cited as an example of knowledge to which we could never attain the chemical composition of stars. A few years later Kirchoff applied spectral analysis to the stars, and provided that very information which Comte had just declared to be unknowable. The fact is men do not begin to proclaim a discovery impossible until they begin to contemplate its possibility. It is an augury that the discovery is at hand.

There is one branch of human history which, like the biology of protozoa, has no direct evidence to build on, and no hope of any. That is comparative philology. No one expects that we shall ever recover documents containing specimens of that lost speech from which Latin, Greek, Sanskrit, English, and such languages, are descended. Writing was not adopted by its users till long after it

had split up into languages very distinct from one another. Our earliest Greek inscriptions only go back to the 6th century B.C., at the very least a millenium and a half after this splitting up. The absence of all direct evidence and of all hope of acquiring it has proved a blessing in disguise. It has forced linguists to do without it, to drop the wasteful and ineffective frontal attack, to which archaeologists are addicted, for a more decisive and economical flanking movement. They have been driven to the comparative method.

That method is based on the existence of divergence : if a species has diverged in different directions, giving rise to a variety of new species, it must be possible to trace back their lines of divergence till they converge on one point, the hypothetical extinct ancestor. Every offspring reproduces its parent or imitates it, but with a difference, which is not the same in all the offspring. By comparing all the descendants or derivatives we can eliminate all the differences, leaving only what they have in common, and that is presumably what they hold from the lost original. We can never draw conclusions as to that original from one derivative only. If we confined our attention to the Northern Europeans only we could only imagine that primitive man was fair-skinned. Other races, however, have other colours, so we must attribute to primitive man some colour from which all the existing ones can be derived. If we only knew English we should believe that a man had never called the woman who bore him anything else but " mother ". Other languages, however, call her *mutter*, *matar*, *meter*, and so on. We must derive all these variants from some form which accounts for them all.

The test of these assumptions lies in their results. While the believers in the direct method still dispute who were the Greeks, whether Zeus was once a powerful king or a natural phenomenon, where the Neolithic Folk came from, how the Piltdown skull ought to be restored, the conclusions of the comparative philogists are in the main so well established that the subject has fallen into stagnation because there is little to dispute about, and controversy is the life of science. No one now disputes that Latin, Greek, and the rest are branches of the same tree ; no one questions the main characteristics of the parent tongue. A great many words have been identified in the derivative languages once for all. Thus there is no going back on such equivalences as English *father*=Latin *pater*= Greek *pater*=Sanskrit *pitar*=Old Irish *athir*, etc.

It is strange then that there is no more determined opponent of the extension of the comparative method to other branches of culture than the comparative philologist. He is positive it will not work in religion or social organization. Well, the best answer to that is

not to argue about principles, not to insist that there is only one method in all science, but to get down to work, and to show by example that exactly the same procedure is applicable to theology and to social organization as to language, and produces results as certain as anything in science.

Let any one take up a dictionary of classical antiquities or mythology, and look up what the believers in direct evidence have done with Hermes. For, however devoted they may be to the records which they can handle and read with their eyes, they cannot be content with the bare facts (no intelligent being can be); they must try and explain them. Scholars and antiquarians have variously explained Hermes as darkness, dawn, twilight, the wind, a god of the infernal regions, a solar god. All these suggestions unfortunately are incapable of proof, because the true nature of Hermes was forgotten, it is evident, long before our records begin. We could go on piling texts upon texts and get no further in certainty, since we should be getting no further back in time. The suggestions remain suggestions. This battle of conjectures is characteristic of those who will admit nothing but direct evidence. They are like men trying to draw a line from a known point to an unknown one without any idea of the distance and very little of the direction. We must draw lines from at least two points to converge on the point we are seeking. Greece alone can never give us direction or distance. Let us take India as our second point.

We cannot read an account of the Vedic god Agni, that is Fire, without being struck by some resemblance to Hermes. Superficial resemblance, however, is not enough: it classes fishes with whales, swallows with swifts. As in zoology, so in cultural studies, we must penetrate below the surface and dissect the structure. Let us dissect Agni and Hermes in parallel columns.[1]

AGNI	HERMES
1. Is fire, and is born of the fire sticks.	1. Inventor of fire and the fire sticks (H.H. IV, 111).
2. Is more particularly the sacrificial fire.	2. —
3. As such he conducted the first sacrifice (Rgv. III, 15, 14; V. 3, 5).	3. After inventing fire he holds a burnt sacrifice, necessarily the first (H.H. IV, 115).

[1] For Agni see: A. A. Macdonell, *Vedic Mythology*, and E. W. Hopkins, *Epic Mythology*, both in G. Buhler's *Grundriss der Indo-Germanischen Philologie*, III.—*Satapatha Brahmana* (*S.B.*), VIII, 6, 6; VI, 4, 4, 11; 5, 1, 12; V, 3, 2, 1, 1; III, 2. 2, 12; et passim.—*Rigveda* (*Rgv.*), I, 1; X, 16.

For Hermes: Daremberg et Saglio, *Dictionnaire d'Antiquités Grecques et Latines*, s.v. Mercurius.—Hesiod, *Theogony*, 939; *Op.* 80.—*Homeric Hymn* (*H.H.*), IV.—Pausanias, IX, 22, 1; V, 27, 8; IV, 3, 3, 4; VI, 26, 5; II, 3, 4.—L. R. Farnell, *Cults of the Greek States*, V. 22.

4. As such he both conveys the offerings to the gods, and partakes himself.	4. He "lusts after the rite of eating the sacrificial meat," but refrains and holds a sacrifice for twelve gods, of whom he is apparently one.
5. As such he is the intermediary between gods and men, their messenger.	5. Messenger of the gods. Intermediary between gods and men.
6. With the offerings he conveys the sacrificer (spiritually) to the gods ; makes him one with the gods.	6. Conveys heroes to heaven on apotheosis, e.g. Herakles, Dionysos.
7. Is also the altar on which the fire is made.	7. —
8. Is also the cremation fire.	8. —
9. As such conveys the dead to the underworld.	9. Conveys souls to Hades, and so is called ' Escort of Souls.'
10. Priest and chaplain of the gods.	10. Herald of the gods.
11. Is threefold, that is has three aspects.	11. Called ' Thrice-great ' (late), ' Three-headed.'
12. One form of Agni is called ' The Face.'	12. There is a Hermes Fore-fighter, and one Army-leader.
13. As Face of the Army, that is as leader, the general sacrifices to Agni, the Face.	13. The Attic generals sacrificed to Hermes Hegemonios, Leader of the Army.
14. Abounds in semen (*Rgv.* IV, 5, 2).	14. Has images with erect phallus (Herodotos, II, 51).
15. Associated with the ram.	15. Associated with the he-goat and the ram.
16. Agni is cattle and bestower of cattle (*S.B.*, VI, 3, 1, 32 ; *Rgv.*, I, 127, 10).	16. Receives from Apollo the rule over cattle and all four-footed beasts. He is called " cattle-driving ", 'sheep-tending ' (*H.H.*, IV, 134 ; 491 ff. ; 567 ff.).
17. Bestows wealth.	17. Called ' Giver of good things '.
18. —	18. Protector of traders and travellers (*Hodios*).
19. Called ' slayer of demons,' (Rgv. X, 87, 1), also ' Slayer of Vritra.'	19. Called ' Slayer of Argus '.
20. —	20. Invents the lyre and the pan-pipe.
21. Identified with the sun.	21. Some scholars have taken him for a sun god.
22. Kindled at dawn (*S.B.* II, 3, 1, 15), and so is called ' waking at dawn ' (*usarbudh*).	22. Some have thought him to be dawn.
23. Kindled three times a day.	23. Born in the morning he develops in three stages in one day.
24. —	24. Called ' leader of dreams '.
25. —	25. Chief of thieves.

Therefore Agni = Hermes.

They agree so closely even to small details that we cannot resist this conclusion : it is not a resemblance of appearance, but of structure. There is however on the right hand side an important blank : there is nothing to indicate what was the nature of Hermes. He invented fire, but is nowhere identified with fire. The word Agni, on the other hand, means fire, and his nature is clearly defined over and over again in the texts. We are faced with two alternatives : one is that the parent conception was that of a fire-god ;

the other is that it was not, and the idea of fire was added in the Indian branch after it had begun to diverge from the Greek, that it was a reinterpretation of an original god who was not fire. We have no direct evidence to decide between those alternatives. There is no test but the usual one in circumstantial evidence: which assumption explains the facts? The second one explains nothing, but leaves us with a host of difficulties. The first one explains satisfactorily most of the characteristics of Hermes. It explains why he is an intermediary between men and gods, for the sacrificial fire conveys the offerings; why he conveys men to the gods, for the sacrifice brings the sacrificer into communion with the gods; why he guides the souls to the nether regions, because fire takes the deceased thither. To be the intermediary between gods and men is the same as being the priest or the herald. The sacred fire was in India carried before a migrating tribe, in Sparta before an army on the warpath. Hence Agni is the Face of the Army, Hermes the Fore-fighter. The association with cattle is more obscure; but cattle are the most important sacrificial victim; the sacrificial fire feeds largely on its flesh. The sun is fire, it is Agni in heaven, so it is not surprising Hermes should have been taken for a sun-god.

The argument is exactly the same as that which decides whether the lizard is more primitive in retaining four legs, or the glass snake in never having grown any. The first alternative commends itself because it explains the presence of rudimentary legs underneath the skin of the blind worm; the second explains nothing. Palaeontology by supplying direct evidence of the succession of types may confirm the deductions of the zoologist and fill in the details, but it is not necessary to the main conclusion.

A comparison of Agni and Hermes takes us no further back than the nearest common ancestor of both, which is only two or three thousand, perhaps four thousand, years B.C. We can work our way further back by enlarging our field, by calling in cultures that may have diverged at an earlier period still, such as the Sumerian. We can bring in living cultures in remote areas which may also be earlier divergences. The Koryaks of Kamchatka recognize their fire-board, from which they make fire, as a god. He is an intermediary between gods and men, also god of the Koryak cattle, which consists of reindeer. The affinity is obvious, but our information is not full enough to decide whether the Koryak form diverged earlier or later than the Greek.

We can enlarge our inquiry in other ways than in space. We can regard Agni and Hermes as just items in each of two systems, Indian and Greek culture, like a tooth or an eye in two species of the same animal genus. They are homologies in two allied cultures.

We concluded that

Agni = Hermes.

We noted that

Agni = priest, Brahman ;

and that

Hermes = herald, Kerux.

We can deduce that

Brahman = Kerux.

This homology has then to be put to the test by analyzing the nature and functions of the Indian Brahman and the Greek herald, even as we analyzed their gods. I will not carry out this analysis here, because this is not a treatise on the comparative study of Greek and Indian culture, but on the principles of evidence. I will, therefore, content myself with mentioning the fact that this analysis does work out and confirm the deduction.

It may be that some time the comparative history of culture will proceed by a series of deduction as in Euclid or a text-book of physics, in this form :—

X is composed of A, B, C, D, R ;

Y ,, ,, A, B, C, D, S ;

$\therefore$ X = Y and R = S.

And so on.

A treatise cast in that form would never be read as things are now. Physicists expect a chain of demonstrations. Historians are used to a discursive style, and will not read anything that is not literature. We must, therefore, as yet compromise and cast our arguments into a fairly readable form without sacrificing too much of its rigour.

The comparative method in our example of Agni and Hermes reaches its goal more swiftly and certainly than the mere examination of records. It will be found to be so in every case. Scholars, historians, archaeologists, all the believers in direct evidence as the only one admissible, are wont to pile Pelion on Ossa without ever reaching higher than pure conjecture. They never reach in affairs two thousand years old the certainty which evolution has attained to concerning developments that took place geological ages ago, and for which there is no direct evidence.

Another weakness of the direct method is that it fails to explain, and explanation is the end of science. The grammarian who sticks to his Greek texts, who will not adventure into what he regards as the quicksands of the comparative method, may note the facts of Greek Grammar : he cannot account for them. He cannot, for instance, tell you why Greek so often alternates *e* with *o*, as in legomen, legete ; the comparative philologist can by calling Latin, Sanskrit, and the rest to his aid. He can postulate certain rules of

the parent language which will account for all the facts of the derivative languages, and to which he can see no possible alternative.

Direct evidence not only fails to explain ; it may even suggest the wrong explanation ; not because it is in the least doubtful, but because it only tells us a fraction of the facts, while seeming to tell all. I have in mind a case from Fiji. I became acquainted there with a nobility, or royal family, if you like, which was divided into four clans, two of them alternating in the chieftainship, two of them out of the running. I was told exactly how it had been so divided, and why. It was not so very long ago, but part of it, if not all, took place within the memory of the oldest men. The original family, descendants of a chief who lived just before 1800, had grown too large. As it was assessed at the same rate as the small clans it was not bearing its fair share of the public contributions. Therefore the youngest branch, which we shall call D, was split off. Then as the remainder grew A was set apart. Of the remainder B was zealous in public affairs, C neglected them for private work. In order to compel C to pull its own weight it was cut off from B. Had I confined my attention to this one village, as scholars confine themselves to Greece, or Rome, or Egypt, I might have rested content with this bit of local history, and taken this fourfold division to be a local accident. But the same arrangement of 4 clans, 2 qualified for chieftainship, 2 excluded, turned up in a neighbouring tribe, then in another. It became quite impossible to accept the first case as the pure accident it seemed to be on the direct evidence, any more than we could accept as an accident the shape of a crystal repeated in experiment after experiment. The fourfold arrangement was a pattern into which Fijian royal families tended till recently to fall. The number four was doubtless connected with the ritual use of four, as in feasts, cures, etc. This fourfold division crops up again in Central Australia, in Java, in India, and is there connected with the four cardinal points of the compass. Evidently it is a very ancient pattern since it is common to peoples so far removed from one another. It certainly never originated in Fiji. Yet the direct evidence supplied by the members of one family would lead one to think that it sprang up locally in the nineteenth century by the decision of one or two strong and able men. Are we to reject their evidence as lying ? Certainly not : it tells us the truth, nothing but the truth, but not the whole truth. It tells us of certain passing maladjustments, such as are continually occuring in any community ; it tells us how they were readjusted ; it does not tell us of the immemorial tradition that there should be four clans, and that any readjustment should restore or retain that primaeval

arrangement. Nor does it tell us that there was not a fourfold arrangement before the readjustment.

To understand this let us suppose that Europe has been swept by a barbaric evasion that has destroyed all records, and even wiped out our social organization from the memory of men. America has escaped: it still has records of its constitution dating back to its original promulgation after the War of Independence. The historian would eagerly seize on these records, and would explain triumphantly to the learned world how parliamentary government originated. We know he would be quite wrong, that parliamentary government is vastly older than the eighteenth century, that in fact it never originated, but evolved insensibly out of some sort of assembly which it must be the task of historians of culture to define, that the American Constitution is merely a local modification of an ancient institution to meet local needs and satisfy philosophical theories which we can trace back through Rousseau, Locke, Hobbes, and right beyond them.

Again let us imagine that we have no records of any peerage before George I, that our earliest notice of any creation of peers is by that monarch. The historians would at once conclude that George I invented the peerage, and mistake his reasons for creating those particular peers for the motives that led to the institution of the peerage. It is as if a palaeontologist were to say: "Here is a Pleistocene skull; it is the earliest that has ever been found. Here then we are assisting at the birth of mankind". That would be absurd; yet that is exactly what the historians are continually doing whenever they lose the scent in following it back; they commonly jump to the conclusion that the scent started there, not that it may have faded out. The Greeks are especially to blame for this bad habit. They tell us that Solon or Lykurgus promulgated such and such a law, state his reasons, and give us to understand that is how the law originated. Our historians are too often content and look no further. They forget that it is possible to promulgate an old law again, possibly with amendments. Parliament has recently voted against the Sunday opening of theatres; but that is not the origin of the custom. We know it can be traced back to the Hebrews. The recent Act merely reaffirms a modern application of a very ancient taboo. Absence of records means nothing: comparative evidence alone can decide. It so happens we have comparative evidence in the case of Lykurgus. We know that many of the institutions attributed to him existed in Crete. We can only conclude that they are much older than Lykurgus, that they go back at least as far as the nearest common ancestors of the Spartans and the Cretans. If these customs are included in the laws of Lykurgus

it can only be that he reaffirmed or emended what he found already in existence. Tradition also says that Lykurgus imposed iron money on the Spartans, and gives his reason. But iron money is very widespread, and not peculiar to Sparta. Comparative evidence makes it impossible to believe that it originated in Sparta. If Lykurgus did include iron money in his constitution he can have done no more than insist on its retention.

If the biologist wants to throw light on the origin of man he studies all the races at present in existence ; he studies also the apes, the lemurs, and even the shrews. He tells the palaeontologist what to look for, and the palaeontologist looks for it. The historian of culture proceeds in exactly the opposite way. Ask him how the mendicant friars came into being, he will not cast round for living institutions so like the mendicant orders in structure as to be beyond doubt species of the same genus. No, he goes straight to his fossils, he ransacks libraries for documents, and in time produces a history, say, of the Grey Friars beginning with St. Francis. He tells you exactly on what occasion he instituted his order and what reasons he gave for doing so. He forgets to tell us what put these ideas into his head, whence came his inspiration. That he will never find in records, because they are not interested in anything but the personality of their hero, or even because they do not wish it to appear that he got his inspiration from anyone but God. Any suggestion that the model already existed, especially among the infidels, would be carefully suppressed. The records then can never explain why there is at that time an epidemic of mendicant orders : Crutched Friars ten years earlier in 1198 in Rome ; Black Friars in 1215 in France ; White Friars not till 1247, but originally appearing in the East in 1156. Remember too that any such widespread movement only succeeds after much pioneering : history only records the successes ; it keeps no count of the preliminary failures. Who knows how many of these prepared the way for St. Francis, St. Dominic and the others ? Evidently there was a wave ; where did it start ? Records cannot tell.

The comparative historian turns from them to living institutions. He finds in Ceylon one so similar that he must postulate a common origin. But who got it from whom ? Here it is that direct evidence can come to the aid. Scholars and archaeologists can then bring their texts, their inscriptions, their bas-reliefs into play. They can trace the Sinhalese species back to Nepal in 500 B.C. They have direct evidence of its spread and of its westward missions as early as some 250 B.C. They can show that there was a considerable influx of Oriental ideas into Europe throughout the Middle Ages,

that St. Josaphat is no other than the Buddha,[1] that the episode of the baskets in the Merry Wives of Windsor is depicted on an Indian bas-relief of the first century B.C., and generally reverse the idea that there was little or no communication between India and Western Europe in the Middle Ages. First then the comparative student can show that the Christian Friars are not an isolated phenomenon, but that begging monks are to be found also in Ceylon, Tibet, Japan. Then the student of records can supply documentary evidence that of these varieties the Sinhalese is the most primitive, that it best retains the characteristics of the parent form which is attributed to the Buddha, but which was itself but one of many contemporary varieties, including one that still survives in India, Jainism.

There are no records of the spread of mendicant orders from India to Europe. Neither is there any record that the anthropoid apes spread to Borneo and to Africa from a common centre. We cannot *see* them spread and never shall. We may find a chain of fossil apes all the way from Malaysia to Central Africa, but that all these fossils have a common ancestor, and that this chain is due to spread, is pure assumption. It can never be proved if by proving we mean actually seeing it happen, or knowing some one who has seen it. But proof does not consist in seeing: it consists in providing so complete an explanation of the evidence of our senses that no better alternative can be thought of, and one which will enable us to move on to further conquests. In Science, as in the courts, circumstantial evidence is not an inferior substitute for the evidence of eyes and ears: it is the very foundation of science, I should say of life. For we could never exist if we could not fill in the vast blanks in our perceptions with inference. Man was given a cerebral cortex to make good the deficiencies of his senses by combining their fragmentary messages into a body of knowledge on which he can act. Whether the historical sciences survive as such a body of knowledge, or perish as a mere mass of erudition, will depend on whether they have the courage to use the gift of nature or continue to believe only what they can see.

[1] T. W. Rhys Davids, *Buddhism*, pp. 115ff.

THE SYMBOL IN LEGEND

By URSULA HOPE McCONNEL

Introduction

In seeking to understand the significance of a given element of culture— such as a pronoun, a kinship term, or a totem, a political symbol such as the red flag, or the emblem of a city, the ritualistic behaviour of a religious ceremony, or even such a common custom as shaking hands—we must consider not only the current meaning conveyed by this symbol, or symbolic act, to members of the society concerned, but must further discover the implicit meaning pertaining to it as one of an interrelated series of associated symbols[1] or symbolic acts, which 'hang together' as part of an underlying framework of implied relationship. Such 'clusters' of associated symbols have an inner synthesis which has grown up out of their combined 'co-operative' activities in bringing about a total effect. We have to look beyond the ever-ready mental attitude or form of behaviour, which the usage of such words as 'father', 'mother', 'you', or 'I' evokes, to the formal pattern of the kinship system or the grammatical structure of the language to which each belongs, if we wish to fully understand the part which these symbols play in social life. The inner meaning of these symbols lies in the combined dependence of the various terms of kinship address or the various parts of speech upon each other. Apart from their implied relationships, individual symbols would be meaningless in individual cases. Similarly we must know something of the political organization, religious beliefs and customary behaviour of a social group if we would assess the value of the red flag, a totemic object, or a salute.

Each such cluster of inter-dependently associated symbols is intertwined with other such clusters and embedded in the synthetic unity of the social group. The apparent independence of each 'symbol-cluster' is due to the flexibility of the associations between the clusters, as such, compared with the relative rigidity of their inner cohesion.

The sound 'L', for example, which in one language may symbolize causality, has in English little significance beyond the word in which

[1] The word 'symbol' is used here in a wider sense than in the two preceding articles in *Psyche*, Nos. 23 and 46.

it occurs as a sign-symbol. The word itself—a cluster of such sign-symbols—depends upon the sentence for its meaning in a varying degree, ranging from complete dependence, as in the article, or conjunction, to a position of relative independence in such words as 'go' or 'father'. The latter word has, apart from the context of the sentence, a still further independent significance for the individual in relation to his biological and social situation, but is nevertheless, in denoting a kinship tie, dependent upon a system of associated kinship-terms. The Wik-Munkan word 'pulwaiya', *i.e.*, 'ancestor in the male line' or 'very-old-father's-father', has an independent value as a kinship term denoting the descent of the clan from a common ancestor, but, as a totemic ancestor, representative of the clan, the 'pulwaiya' is dependent for its significance upon the relationship of a number of interdependent totemic clans. As 'kangaroo' or 'water lily', the 'pulwaiya' represents a kinship group, economically dependent upon these objects for its sustenance. In this respect it symbolizes one of a number of economically-inter dependent clans, and is related to the economic system as such.

Society is a maze of such interrelated symbol-clusters with varying degrees of inner cohesion and compactness. Upon this storehouse of symbolic resources the individual draws for his immediate experiential requirements. The deeply-rooted cohesive systems of language, kinship, economic system and the like are the conservative elements in the social milieu. They bear the weight of social economy in thought, speech and action. Meaning and habits once acquired, taken for granted, free the mind to attend to new ideas and fresh adjustments. Experiences and events, which led to the formation of habits, are forgotten, meaning and skill are maintained by exercise of the pattern systems in the present. Society retains, no doubt, much that is irrelevant in its symbolic cluster-associations, but in spite of this irrelevancy, the latter represent on the whole an enormous economy. They are taken over by each succeeding generation. Their absorption by individual members of society is largely automatic and uncritical. The symbols are 'signs'[1] relevant to the need of the moment and of the individual. Thus they undergo a constant re-interpretation, balanced by a levelling process due to the need for a common basis of understanding between members of society.

It is important to realize that the depths of meaning which once enriched a culture in the past may be very imperfectly experienced

[1] Cf. *The Meaning of Meaning*, C. K. Ogden and I. A. Richards. Also the Appendix by B. Malinowski, "The Problem of Meaning in Primitive Language."

by the descendants of those who once found them effective. The formal aspects of a culture may remain relatively intact, whilst the understanding which clothed them with richness and colour may have disappeared. Traditions, legends, political structures, economic systems, and even languages, in so far as they fail to serve the present purpose of welding together the experiences of the group into an effective organization for practical purposes, gradually deteriorate and become sterile. At any given time an element of culture may be a mere 'hang-over' from a previous situation and owe its present existence merely to the cohesive nature of the system to which it belongs. It may actually be meaningless in terms of the present. It may possess a value which is the very opposite to that which it once possessed. Or a symbol may be in the process of taking over some new meaning by way of association or analogy with other symbols with which it is becoming classified. It is part and parcel of a synthetic whole which hangs together as a legacy from the past, is orientated in the present, and is heading for the future.

To describe such transitional elements of culture in terms of a present situation necessitates an explanation which is obviously only partly valid and is therefore likely to distort the truth.

Language, with its formal structure on the one hand and its relationship to social situations on the other, affords a fertile field for the study of symbolism. The necessity for distinguishing between function and form in language, between mere mechanisms due to the adjustments of phonetic and phonemic elements, and the function of a symbol in conveying meaning in a particular context-situation, has been clearly formulated by the linguist. The comparative and historical study of language is drawn attention to in the shifts in meaning and function which language symbols undergo in the course of time. Consequently therefore it points also to the fallibility of rationalizations based upon an interpretation of any one symbol merely in the light of its present status. I am indebted to Dr. Sapir for the following example of shifts and changes in the meaning and function of language symbols. The words 'wreath' and 'wreathe' as spoken and written show that an interesting shift has taken place in the values of the sounds 'th' and 'e'. The suffix 'e' as it still persists in the written language functions as a means of distinguishing between the nominal and verbal forms, but in the spoken word the voicing of the 'th' sound now bears the weight of the verbal distinction, and in all probability it bears also by analogy the weight of the written word. The voicing of 'th', however, was originally a mechanical result of its position in relation to the following suffix

' e ' which originally fulfilled the function, now supplied by ' th ', at a time when ' e ' was pronounced. When the voiced ' th ' sound became thus associated with the verbal form in contrast to the unvoiced ' th ' of the nominal form, the function of ' e ' too shifted to ' th,' and the ' e ', becoming functionless, gradually disappeared from the spoken form of the word. At present it is retained only in the written form, there being no written symbol for distinguishing the voiced from the unvoiced ' th '. Similarly, the French ' t ' in ' a-t-il ' on an analogy with ' il-a ', was wrongly interpreted as an inserted ' t ' for the phonetic protection of the following vowel. Historical evidence, however, shows it to be the remains of an old Latin pattern ' habet ille ', of which the ' t ' has been retained on account of its phonetic value.

Every social symbol possesses a two-fold orientation—(1) towards an individual situation, and (2) towards a system of inter-related symbols, the coherency and effectiveness of which depends upon the ordered arrangement of its parts. Of this inner synthesis the individual may be largely unaware, having acquired it by a process of imitation and empirical experience, supplemented by such education as may enlighten him still further as to the nature of this orderly arrangement.

The inner synthesis which holds symbol-clusters together as a working system is a product of the past. Any single act of thought or behaviour (1) is a product of acquired habits of thought and behaviour on the part of the individual which in their turn are conditioned by norms of behaviour handed down by tradition from the past and accepted more or less blindly by the group to which they belong; (2) contains those individual differences in reaction and meanings given, which go to build up personality, and which, in association with similar reactions on the part of others, gradually remould the forms and culture. It is obvious, then, since the greater part of our behaviour and thought is conditioned by formal patterns of thought and action which are a heritage from the past, that the past must be taken into consideration in attempting any analysis of symbols and their combined ' effort ' to function in the community.

In a given society at any given time there are patterns of behaviour, backed by custom, prestige, and authority, for which the average person can account but little, save to say that they have always been so, as far back as he or she can remember. These systems form the real background of social life and of the personality of individual members of the group. Then there are individual and group variations from these forms which gradually accumulate meaning and force, and unconsciously remould the forms. Finally

there are individual and combined reactions against the authoritative and conservative observance of customary behaviour. The latter prove that the very mechanisms designed for man's social progress may become so unwieldy and inelastic under changing conditions as to seriously hamper his efforts toward progress. When backed by authority in the case of non-adjustment, they may lead to personal conflict or to serious social disintegration.

The problem of maladjustment, however, is not the main topic of discussion here. Interest lies rather in that social hinterland which is taken for granted by members of society in their daily activities, and which remains, comparatively speaking, unchanged so long as it works; that is to say, interest lies in the 'meaning' which lies behind the surface values accepted by most individuals in their everyday life. For, apart from all questions of practical expediency, it is important that the scientist should understand the true nature of the formal patterns of social behaviour.

Now the way in which symbolic patterns of behaviour have been evolved, can, at best, be but inadequately conjectured in societies which have no historical records. This fact does not, however, permit us to lose sight of the factor of history in our ultimate interpretation of social symbols. We have at our disposal a comparative technique. A hypothetical reconstruction of probable time-processes is preferable to an interpretation based upon a mere cross-section view. The more finished methods of the science of linguistics provide in this respect an excellent model for the study of culture in general. The comparative study of modern languages, both historically recorded and otherwise, has enabled the linguist to place languages in family groups and to form some idea of the growth processes that have lead to their differentiation. Comparative evidence is supplemented by documentary evidence where such is available. The science of linguistics thus avails itself of a two-fold approach to its problem, and uses the historical or longitudinal analysis of language forms to supplement the comparative study of the modern language forms. This method of comparing historical and modern data has yielded valuable results in the science of linguistics. A field-worker in a primitive society must, for lack of historical records, base his explanations upon what he finds in the immediate present. His task is to study the way in which the cultural forms are working at the moment. He has to reconstruct from available evidence the way in which symbolic patterns hang together. But, in his effort to describe culture as a synthetic whole, he may overlook the importance of the historical factor. Members of society take the social hinterland for granted so long as it works, and so sure are they of its stability

and its authoritative support in cases that really matter, that they overlook variations in behaviour of a minor nature. Should the stability of society be really threatened, however, would they not rally to its defence ? It is because the formal structure of society is so taken for granted that it is the most difficult aspect of culture to understand when studying primitive society. It is embedded in spontaneous habits of thought and behaviour, which are not obviously recognizable in overt action. The ethnologist needs to make a very careful sifting of the forms of behaviour of a number of individuals who have very little idea of why they behave as they do, but who will be ready, no doubt, with some rationalistic explanation of their actions, which may be only partially true. Since this unselfconscious hinterland of social life is based almost entirely on habits of thought and behaviour which are a heritage from the past, we cannot estimate the full significance of social structure without taking historical processes into consideration. One may draw attention here to Dr. Sapir's insistence upon the necessity for distinguishing between form and function in the analysis of culture patterns—as exemplified by language; also for his emphasis upon the importance of comparative and historical techniques in the study of culture.[1] However insecure the conclusions based upon a comparative survey may appear to be, the comparative method does at any rate provide a sliding scale of values which gives us a time-perspective, and throws light upon the nature of the growth-processes which are likely to have taken place in the moulding of social forms. This, in the absence of more adequate historical material, is an advance, for it lends depth to the understanding of the culture in question and prevents the scientist from taking a one-sided view of the facts.

These points may be illustrated by examples from the Australian field. In his comprehensive survey of the various types of Australian kinship systems[2] Professor Radcliffe-Brown suggests that the underlying similarity of the various types of social organization in Australia affords a remarkable opportunity for comparative study. He adds, however, that since the history of the processes by which these variations have arisen is unknown to us, it is idle to speculate about them. But is it not less speculative to try to discover the nature of growth-processes which have admittedy contributed to a given situation, than to base our ultimate hypotheses upon the incomplete data of a cross-section analysis ?

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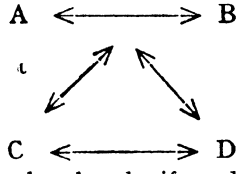
[1] Canadian Dept. of Mines, Geological Survey, No. 13; Anthropological Series, Memoir 90:—*Time Perspective in Indian Culture*, E. Sapir.

[2] Oceania Monographs, No. 1; A. R. Radcliffe-Brown, *The Social Organization of Australian Tribes.*

A family as a biological unit is held together by three natural ties:

husband ⟷ wife
parent ⟷ child
brother ⟷ sister

based upon the factors of sex, procreation and common parentage. A family situation may be described by the following diagram:



in which A and B are husband and wife and have children C and D who are brothers, or brother and sister. Sociologically these biological relationships are definable as marriage, generation, and fraternity. These principles are recognized as basic in any society whatsoever, in which family life is a recognized social unit. Each such family unit is related to other family units by one or other of these same ties. The complex situation which arises from the interaction of families united by one or other of these three principles and together irrespective of behaviour patterns, involves such organized social adjustments as are found, for example, in Australian kinship systems, *e.g.*, sororate and levirate, clan organization and exogamy, and the extended classificatory system, all of which appear to cast their reflection in the kinship terminology.[1]

Interpretations of the formal structure of particular kinship systems in terms of these basic principles, basic in all society—*i.e.*, fraternity, sex, and generation—account neither for the complexity nor for the variability of the many and diverse social structures to which they have given birth. These social structures are surely the combined effect of the adjustment of these principles with the factors of circumstance, time and environment. Out of such composite factors man has achieved his social stability. We have, therefore, to reckon with the process of growth in interpreting both the underlying similarity and variations in type of social organization. The fact that we do not know the history of the growth-processes does not justify us in throwing the past overboard, nor in basing our explanations upon primary principles alone. Such procedure is comparable to the search for a synthesis in terms of a 'common origin', the 'psychological similarity of human minds', or a 'racial unconscious'.

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[1] Cf. "Terms of Relationship and the Levirate," E. Sapir, *American Anthropologist*, Vol. 18, No. 3, July–Sept. 1916.

We seem, therefore, to require an approach which leaves room for both historical and sociological techniques. If we cannot grapple with the entire historical situation, in analysing a social situation at any given time, we can at any rate keep an eye on the more immediate time-processes involved.

In Australia, as Professor Radcliffe-Brown observes, we have an excellent opportunity for making a comparative study of variations from a common type of culture. An example may be given here from the field with which I am myself most familiar. The Wik-munkan and allied tribes of the Archer and Hobroyd Rivers on the Gulf of Carpentaria, N. Queensland, use distinctive terms for the mother's older and younger brothers respectively, a distinction which is correlated with what may be termed a junior-marriage system. In this area a man is debarred from marrying the daughter of his MUKA (m. older br.) and marries the daughter of his KALA (m. younger br.), whilst a woman marries the son of her MUKA, but cannot marry the son of her KALA—a system which renders the usual exchange of sisters as wives by two men an inconsistency. This type of marriage is peculiar to Cape York Peninsula.

I am indebted to Professor Radcliffe-Brown for pointing out to me that these distinctions between the older and younger brother indicated the existence of a modified form of the usual cross-cousin marriage, *i.e.*, that they functioned in relation to the marriage laws. This opinion afterwards proved to be correct, for a more careful search revealed the existence of the junior-marriage system, which was still being observed by the more conservative members of the Wik-munkan and allied tribes.[1]

Now among the Koko tribes of the Daintree and Bloomfield River district, between Cooktown and Cairns, on the east coast, I found the same differentiating terms for mother's older and younger brother, without any apparent reason for observing this distinction, *i.e.*, the terms were not accompanied by a taboo upon marriage with the mother's older brother's daughter. The term Kalanga (Kala) was used indiscriminately for both relatives, while Mukai was a colourless term, apparently used as a term of respect, on an analogy with the use of distinctive terms for older and younger brothers. However, these people quite rigorously observed a principle which happened to be inherent in the Wik-Munkan system, also, namely, the taboo on exchange of sisters as wives. In the case of the Koko-yalunyu the real need for using different terms Mukai and Kalanga for mother's older and younger brother was absent, since there was no direct regulation of marriage from this approach.

[1] "The Wik-Munkan," Part III, Kinship. (Unpublished).

Comparison with previous records made by Dr. Roth[1] among the Koko-yimidir of the Cooktown district to the north showed that the use of the terms Mukai and Kalanga, as indicative of a woman's and a man's *father-in-law* respectively, had been in use in this area some 30 odd years ago. In view of this comparative evidence and that of the Wik-Munkan tribe, I felt justified in pre-supposing the previous existence in these Koko tribes of a junior-marriage system similar to that practised by the Wik-Munkan. This supposition later proved to be correct, for an old man of the Bloomfield River remembered the existence in his earlier years of this junior-marriage custom. The Koko-yalunyu were quite consistent with the past, but not with the present, in their use of the terms Mukai and Kalanga. Whether this change had taken place before the incoming of 'the white man' forty odd years ago with resultant social disintegration, or whether it had already occurred, perhaps as a result of contact with neighbours to the south, who possessed and introduced to the Koko-yalunyu the four-section system and taboo on the first cousin marriage, is uncertain.

It is clear that no satisfactory explanation of these kinship terms could be given in terms of present-day Koko-yalunyu society. One would have been wrong if one had accepted the rationalization that these terms were used out of respect for age, on an analogy with the terms for older and younger brother, for this distinction between older and younger brother is related more nearly to the practice of the sororate and levirate. Thus, by comparison with surrounding tribes, possessing similar culture-patterns, one was able to construct a hypothetical conjecture as to processes in the past, and to assume that similar terms had had a similar function which had for some reason disappeared in this area. An hypothesis based upon comparative data was proved by historical evidence to be correct. Thus an expectant attitude of mind towards the past evoked a special effort to find evidence for an hypothesis, which, since it proved to be correct, led to a true evaluation of the social organization of the Bloomfield and Daintree River tribes. The technique is therefore justified. In whatever garb we may seek to disguise it, this method involves an historical approach and an appreciation of time-perspective in the analysis of kinship symbols.

The comparative method has proved valuable in interpreting other phases of Australian culture besides kinship. A wider survey and more intensive study of totemic systems in various parts of Australia has led to a considerable modification of the early theories of totemism based upon the pioneer studies of Spencer and Gillen

[1] *N. Q. Ethnography*, "The Koko-yimidir Language." Vocabulary.

in Central Australia.[1] Fresh light has been thrown upon the relationship of totemism to exogamy in the coastal and inland tribes respectively of N.C. and Central Australia. These regions were subjected to comparison by Sir James Frazer.[2]

An intensive study of localized totemic clans in coastal areas shows the economic problem and not exogamy to be the crux of the totemic situation.[3] The close association in the fertile coastal area between an economic unit occupying a locality, over which it holds hunting rights, and the kinship group occupying this locality by right of descent from a common ancestor, involves the identification of the clan as such with those objects with which its daily life is concerned. These objects give their name to the clan by a very natural process of identification. A myth rationalizes the association between clan and totem in terms of the transformation of the clan ancestor, or ancestors, into the totem object. Thus, in the coastal region, economic and kinship motives are merged into one. The necessity for distinguishing these economic groups as kinship units, levels out the totems into complementary sets. It is quite exceptional, in the Wik-Munkan tribe, for example, to find any overlapping. On the contrary, objects of subsidiary local and economic interest are drawn into the pattern apparently as an aid to classification. The Wik-Munkan[4], however, do not appear to use the totems as classificatory tags, regulating the marriage law, in the formal manner described by early accounts of tribes in North Central and Central Australia. Local interests play a very important part in the defining of exogamous kinship groups and in regulating marriage. One can imagine, however, that a totemic pattern, already present, might become a handy tool for keeping distinct the exogamous groups in cases where clan residence is not so permanently localized, nor boundaries so clearly defined, and where society would consequently be robbed of a certain stability afforded by ties of locality.

In the Warramunga and neighbouring tribes of North Central Australia, where there is probably greater internal mobility than in the coastal Gulf area, the totem seems to have acquired this function to some extent. Here the kinship organization has apparently

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[1] *Northern Tribes of Central Australia*, and *Native Tribes of Central Australia*, Baldwin Spencer and F. J. Gillen.

[2] *Totemism and Exogamy*, Vol. I.

[3] For a survey of Australian totemism see A. R. Radcliffe-Brown, *Man*, Vol. XXVI, 1926.

[4] A detailed study of this totemic situation in the Wik-Munkan tribe, C. York Peninsula, is given in *Oceania*, Vol. I. No. 1 and 2, and *Psyche*, 46. For a comparison between the totemic culture in Cape York Peninsula and other parts of Australia, cf. "Totem Stones in Cape York Peninsula," U. H. McConnel, *Oceania*, Vol. II, No. 3.

'tightened up'. The Warramunga possess an eight-section system as compared with the four named 'sections.'[1] of the coastal Mara and Anula. Local hunting areas are identified with the moiety rather than the clan. The sharing of hunting privileges between clans of the same moiety is accompanied by a corresponding interchange between clans of economic responsibilities regarding the performance of increase-ceremonies. The loosening of local clan ties is compensated for, apparently, by the performance of dramatic representations of scenes in the life of clan ancestors, and by the use of the churinga as a link between an individual and his totem-centre. Belief in the reincarnation of spirit-ancestors in the womb of the mother near appropriate totem-centres suggests that an effort is being made to hold together clan ties, the intimacy of which is threatened by local disintegration. Apparently the Warramunga succeeded in maintaining the integrity of their clan system in spite of the increased importance of the moiety and slackening of local clan ties, for it is stated that " a totem seldom makes a mistake in choosing a woman of the right clan ". Among the Warramunga the totem, not surprisingly therefore acts as a 'tag' for the observance of marriage laws.

Not so in Central Australia, where it is stated that " the totems of the Arunta have no influence whatever on marriage ". The Arunta, like the Warramunga, have a complex kinship organization, and exogamy is vested in the moiety rather than the clan. There is, apparently, however, greater dissociation here between kinship organization and economic interests, suggesting that, economic conditions being more extreme, social cohesion upon the basis of locality is correspondingly more difficult. The 'increase ceremony' is not performed, as with the Warramunga, by the headman of a group, but is the property of a particular individual, who alone has the right to perform it or of requesting someone else to do so. This individual " has inherited this right from its previous owner, such as the father, or older brother, or has received it as a gift from the disembodied spirits of his forefathers ". The gift depends, in other words, upon his mother's claiming to have conceived a child near the totem-centre concerned. And, as Radcliffe-Brown has pointed out, the fact that a woman hunts with her husband's hordes, makes it likely that she will conceive in the vicinity of a totem-centre, belonging to her husband's moiety. For men usually hunt in areas associated with totem centres over which their moiety has control. It is significant that only men belonging to the right moiety may share in the Intichiuma ceremony. As with the Warramunga, the

[1] Cf. Lloyd Warner's account of these tribes in *The American Anthropologist*, 1933.

kinship organization has apparently tightened up to preserve the stability of the kinship ties under pressure of a faulty economic situation. But in the case of the Arunta, the greater difficulty of maintaining intimate associations between clan and economic interests renders the totem less useful as a marriage-tag. The complex kinship organization itself takes care of the problem of exogamy, and the totems are more or less functionless in this respect. It is not surprising, therefore, to find a certain discrepancy between the totems of parent and child, in the Arunta Tribe, and on the other an accentuation of the belief in the reincarnation of spirit ancestors and the cult of the churinga. Nor is it surprising to find that the strictness regarding the inheritance of totems from one parent rather than another, is being relaxed in favour of more fortuitous but also more intimate ties of *temporary* residence. The conditions might very conceivably lead to the irregular marriages, between members of the same totem, reported from this area.

In the Central part of the Australian continent natural conditions are hardest, food supplies most difficult to obtain. Wandering in search of food is more characteristic of Central tribes than is permanent settlement. Incidentally the kinship organization of these Central Australian tribes is on the whole more complex than in the more fertile regions of the coastal areas, where the permanent settlement of clans in one locality over a long period of time is the usual mode of life. Whether there is any connection between the complex social organization of these inland tribes and their more unsettled mode of life is an open question, but the keen interest taken in the discovery of the peculiarly complex exogamous classes of these tribes no doubt coloured the current conceptions of totemism at this time, and rightly or wrongly emphasized, the exogamic aspect of totemism at the expense of such economic features as the 'increase' ceremony.

Now it was clearly recognized by pioneer authorities in this area, that the majority of totems are economically significant. It was also pointed out that the difficult economic conditions prevailing in arid Central Australia, as compared with the fertile area of the Gulf of Carpentaria, were probably responsible for the greater importance attached by the Arunta to the performance of "increase ceremonies", than by the coastal Anula and Mara. The significance of this fact for the social organization of the Central Australian tribes was overlooked. The startling complexity of kinship-organization and the peculiar beliefs in the reincarnation of spirit-ancestors, eclipsed in the minds of the observers the more mundane factor of the daily preoccupation of natives with food problems. A queer twist was thus given to interpretations of totemism in

Australia and Central Australia afforded a fruitful field for speculation. Theories of primitive promiscuity and ignorance of paternity were requisitioned to explain the irregularity of totems as marriage and the belief in spirit conception. The complexity of the kinship-organization was attributed to dread of incest. Exogamy, regarded as basic factor in Central Australian totemism, it then became necessary to try and explain the coastal Gulf tribes in terms of this picture.

A closer investigation of coastal areas, and a comparison of totemic systems over a wider area, betrays the close identification of economic and kinship interests in the fertile areas of the coast and suggests that the more complex and irregular social organization of the Central Australian tribes is due to the more complex economic conditions of this area.

Starting from this position it becomes possible to explain the use of totems as kinship 'tags' and the association between totemic and clan ancestors. The hypothesis gradually emerges that as economic conditions have become more difficult, kinship organization has become more complex, to draw together the ties of kinship threatened by the disintegrating bonds of locality, that as clan organization based upon ties of locality is threatened, the individual is held to his family situation by an accentuated belief in the reincarnation of spirit ancestors near appropriate totem centres, and by dramatic representations of ancestral activities; that the churinga acts as a concrete symbol of the intimate bonds between the individual and his totem-centre, and is the hall-mark as it were of his right to belong—though frequently absent.

In other words a more complete comparative survey of the various types of totemic organization in different parts of Australia modifies to some extent the classical theories of totemism based upon pioneer investigations in Central Australia, and points to an economic motive at the basis of the totemic complex and to the relative independence of the totemic and kinship motives. A hypothetical reconstruction of probable tendencies in culture growth, based upon a comparative study, gives a new conception of such culture-traits as animal ancestors and the use of animals and plants as formal 'tags' for distinguishing exogamous groups. The totems no longer appear as grotesque aberrations of the primitive mind, but as the natural result of the identification of economic, local and kinship motives which is a process comparable to the adoption of the 'wattle' or the Southern Cross as symbols of national sentiment in a white Australia.

We may say, then, that the inner coherence of any formal structure such as language, kinship organization, totemic systems,

religious ritual, legends, etc., is the result of inter-acting and associative processes which, in the course of time, have pulled the symbols this way and that, as individuals sought to balance their social stability against the factor of change, by establishing organized forms of knowledge and behaviour. It is thus important to consider culture in relation to the time processes that have produced it, and to refer a system of inter-related symbols to its development in a time sequence. Every society is in a process of transition from what it has been to what it is becoming. The present is but a transition period in the process of growth. If we try to analyse a culture in terms of the way it functions at the present time, we are apt to miss some of the more subtle shades of meaning which only become apparent in a study of changing situations in a time process. The meaning of culture-forms is related to a time-synthesis, and any attempt to interpret synthetic systems in terms of a cross-section analysis at a given time is bound to be incomplete.

Having, I hope, justified the use of an historical technique as a complementary aid to the interpretation of symbol clusters, I will proceed to illustrate this twofold approach by a comparison of the analysis of two legends, the one gleaned in a primitive society—the historical background of which can be but vaguely conjectured; the other a creation legend, the historical antecedents of which are comparatively well known to us, but which become lost to view in the mists of an incompletely recorded past. The first is a Moon Legend from the Bloomfield River, N.Q., and the other the Legend of Eden. The two legends illustrate the way in which symbols hang together in a cluster or system in relation to a total effect which they combine to carry out. The Moon legend and its analysis has been published elsewhere[1] and will only be referred to in passing.

But since I first undertook, some years back, the analysis of the Legend of Eden,[2] my field experience among the Australian aborigines has contributed a clearer understanding of the nature of culture growth, and incidentally also a more adaptable material in which to describe social processes; and for this reason I have wished to contrast these two studies. I have used the Australian legend as a sociological introduction to the analysis of the Legend of Eden. On the other hand, the sociological analysis of the Australian legend is reviewable in the light of a time-perspective supplied by the historical analysis of the Eden Legend. Like other

[1] Vol. II. No. 1. 1931.

[2] Carried out under the direction of Mr. W. J. Perry at University College, London in 1925–6, I am indebted also to Mr. Sidney Smith of the British Museum for directing my search for relevant material and to Mr. Dougherty of Yale University for kindly checking my references and drawing my attention to recent researches in the archeological field.

legends of the Australian aborigines, the Moon Legend is limited in its scope, but since it deals with the central problem of social organization, it is more comprehensive than most.[1]

The legend originally formed part of the dramatic representations that took place at the periodical initiation ceremonies, or *ngalandja*. In analyzing it I have described the way in which it reflects the various social interests (kinship, totem, clan and moiety, birth, death and marriage laws, etc.) which are interwoven in such a way as to produce the story. I have pointed out that the Legend as such fulfilled the immediate function of keeping alive in the minds of the Koko-yalunyu the salient features of their social organization, together with the sentiments and laws which regulate them. I did not, however, attempt a hypothetical reconstruction of the growth-processes by which the various motives in the story had become welded into one, for the evidence is so slender that one hesitates to allude to it. Nevertheless, one is aware of a shallowness in one's interpretation which refers only to a present situation. One feels that depth of meaning can only be finally attained by relating these various motives in the legend to a series of growth-processes in the past history of the Koko-yalunyu. In the interests of the argument therefore, I will attempt to point out some of the probable features of this constructive process.

For example, one may point to the old hostility between the Koko-wara of the hill country, who periodically raided the Koko-yalunyu and stole their wives. There is no doubt that this part of the story reflects a long history of such raids and reactions. Then again, tribes bordering on this neighbourhood are said to have practiced at one time the custom, recorded by Roth[2] practiced by tribes in the Boulia district, of mutilating girls at the onset of puberty. According to present accounts this custom was repudiated by the Koko-yalunyu, and their hostile attitude towards this custom is apparently reflected in the indignation of the people at Gidja's act. One can advance a rough hypothesis as to the probable way in which the various aspects of the legend became gradually welded into their

[1] A complete mythology of the Koko-yalunyu would include all the legends of the various clans dealing with the raison d'être of their respective totems, the importance of which varies in proportion to their social value. The legends are complementary in that each describes some one aspect of the social reality, and each is a creation myth in itself. Consciousness of a social unity beyond the clan is insufficiently developed to weld these separate clan legends into a single story of creation, or to conceive "the world" as the creative act of a single tribal deity, though Gidja—owing to his important position as the creator of woman, and the founder of sex and marriage, and therefore of the social order—comes nearer to fulfilling this rôle than any other totem of the Koko-yalunyu.

[2] Walter E. Roth, *Ethnological Studies amongst the North-West-General Queensland Aborigines*, par. 305–309.

present complexity. The legend bears the stamp of the typical totem-legend which accounts for the totem-object in terms of the activities of a mythological hero-kinsman, who thus became the benefactor of his clan. The story of Gidja's throwing a bone out over the sea similarly supplies the *raison d'être* for the rising of the new moon over the ocean to the east in the shape of a boomerang. But that peculiar aspect of the moon, its association with the periods of women, carried Gidja (the moon) out of his more localized setting, and made of him a hero of tribal importance, the creator of women and babies. Most tribes possess a story of the origin of man and woman, but it is not usually the moon that figures as creator. In this case the creation legend appears to be a special variation of the ordinary totem legend, on account of the importance to social life of this observed concurrence of the moon's phases with the periods of women. The drama of creation, and of the founding of family life, has supplied the motive for the story of the origin of kinship ties, or social organization in the wider sense, till the legend has taken over the burden of accounting for the whole social structure. The 'incest' taboo and practice of punishing by death the man who takes a woman of the same moiety as himself for a wife, seems to be subtly reflected in the killing of Gidja by his fellow men. This story of a social struggle fits in neatly with the elaboration of the transformation legend, in which Gidja's periodical exhaustion and recovery supply a theme for explaining the moon's gradual waning. The totemic motive, which probably started the ball rolling in the first instance, re-enters on another note in association with the sorting out of the various animal totems as a result of the mating of men and women, so named, and the founding of their families.

One feels that the subtly interwoven pattern of the Legend which unfolds like a musical symphony, has grown out of a gradual process welding together this motive with that, and this symbol with that, in the past history of Koko-yalunyu society. It is interesting to observe that the legend was given to me in fragments, the general feeling being that they all somehow belonged. It would seem as if these different themes were loosely held together by a thread of continuity suggesting that the various motives may have all been a part of a nuclear complex of ideas, which became more clearly defined in the course of time.

Historical evidence is so slight that one feels apologetic for introducing it here, were it not to draw attention to the background of culture growth-processes which are implied, and which give the sense of depth and balance, without which some pseudo-interpretation of the legend in terms of the flight of a fertile imagination, or of unconscious psychological motives, might pass unchallenged. There

is no knowing what form the legend might not have assumed in the course of time. Were it not for the totem-rock by the seashore, and the general resemblance of the legend to other totem-origin myths, one might already have doubted its totemic affiliations, and Gidja might well have shed in time his lunar affinity, and become an anthropomorphic tribal hero, thus losing all trace of his totemic associations, leaving us in ignorance of the association between his *rôle* as creator-hero, and the moon's supposed powers over the functions of a woman's body.

If historical evidence is lacking in the case of the Moon Legend, it is certainly forthcoming in the Legend of Eden. In fact, one may say that the historical career of the latter and its lukewarm status in modern European society are in inverse proportion to the lack of historical data and the important social function of the Moon Legend in Koko-yalunyu society. The Legend of Eden had probably already remained static for many years, embedded in Jewish doctrine, before it entered European culture along with Christianity. Much of its substance must have been many centuries old before it reached the Hebrews—it doubtless declined in function as it historically descended. But the Legend of a Garden Paradise was once, no doubt, as vitally important to the early Mesopotamians as was the Moon Legend, until recently, to the Koko-yalunyu.

I was first attracted to an analysis of the Legend by Dr. Elliot Smith's work on *The Evolution of the Dragon*, in which he shows how symbols, whilst retaining their nuclear form, change their values in time and place according to circumstance and the demands of social environment in the societies in which they function. I am, however, more interested in sociological processes as such than in historical facts or origins, for the latter have a way of evading the issue by receding ever backwards into the past and losing themselves in the wider problem of relative and changing values. I have also confined myself to one particular area.

The technique employed in analysing the Legend was suggested by Freud's *Interpretation of Dreams*. In this work he shows a new use of the clinical interview which gives very surprising results when applied to the elucidation of dreams. In dream analysis, the manifest content is traced back by a series of associative links in the life history of the individual to situations in which it was highly significant. The dream pattern is then re-interpreted in terms of this personal historical background. Similarly, with the aid of the archaeologist, the manifest content of the Legend of Eden has been traced back to social situations in the life-history of the culture in which it has significantly functioned, and in the light of this analysis a re-interpretation of the legend-pattern has been attempted.

I realize that I am encroaching upon dangerous ground when I enter the field of archaeology, and I wish to make it quite clear at the outset that my interest here is in archaeological data only in so far as they contribute to the study of sociological research. I accept the expressed opinions of experts whose authority is recognised by peers in their own field. If I have anything to contribute it is merely a point of view, which may be of little interest to the archaeologist, but may perhaps establish my argument regarding necessary methods of approach to the study of symbols.

THE LEGEND OF EDEN

In attempting to analyse the growth-processes, which, according to archaeological evidence, appear to have contributed to the present form of the Legend of Eden, I am presenting, first and foremost, the point of view that, without taking historical factors into consideration, we cannot understand the full significance of the legend, nor the full purport of the symbols it employs. Were we not conversant to some extent with the religious beliefs of early Mesopotamia, we should be entirely at a loss to account for such factors in the Legend as the association between a story of creation and a story of moral conflict, or again the serpent, tree, and water symbolism. No cross-section of culture as it appears to-day gives us a hint of the why and wherefore of the interwoven pattern of the Legend, which we accept at its face-value. We might, as moralists, be ready with rationalizations in terms of modern conceptions of 'good' and 'evil'. Or we might as psychologists be ready with more subtle individualistic interpretations in terms of an 'unconscious' ego or 'universal' symbols. Or we might even treat the legend as a harmless fiction and relegate it to a past where it belongs. Such a careless gesture might be nearer the mark, for the story takes on a very different shape as we recede with it into the past and begin to have a feeling for its social hinterland. Whilst the concepts of 'good and evil' are to be interpreted in any society in terms of its own peculiar social problems, but we begin to discover, as we delve into the past, something of *the changing scenes* of this conflict, and the subtle changes in the interpretation of 'evil' and in the symbols in which such ideas reside. We find that the serpent-dragon was once probably as real a social personality as 'Faust' or 'Mr. Hyde'; or that the serpent of Eden is foreshadowed by a beneficent deity who himself in serpent form dispensed the gifts of life, healing, and immortality, from the sacred tree.

There is little in biblical history to elucidate the latent content of the legend. We must seek somewhere in a more remote past those

living social situations which shaped its inner form, a social milieu which the legend reflects much as does the Moon Legend the society of the Koko-yalunya.

In analysing the Legend of Eden, I shall not rely upon historical facts in the more precise sense of the term. I shall rely rather upon the structure of the mythological material itself and upon the interpretations, given by expert authorities, of the relation of this material to the changing scenes of social environment in which the various motives and symbols are reflected in the course of their onward career.

We may distinguish roughly in the Eden Legend three main themes or motives:

(1) A story of a conflict between 'good' and 'evil', in which the serpent figures as an evil genius;

(2) a story of creation;

and

(3) a sacred grove or primæval garden (*a*) located at the sources of the rivers (*b*) in which grow the tree of life and of the knowledge of good and evil (the tree of begetting ?) (*c*) over which the serpent appears to have some claim, since he is aware of its secrets and disposes of its fruit, and apparently resents the curtailing of his rights by the presiding deity of the garden.

The first of these, the conflict theme, appears to have developed somewhat independently of the third, or grove motive. In the Babylonian Dragon-legend with which a Legend of Creation is intertwined, there is no trace of the sacred grove; whilst the sacred grove on the other hand is more closely related to Legends of a Garden Paradise in which the problem of conflict is relatively lacking and in which the serpent plays the *rôle* of a beneficent deity instead of that of an evil genius as in the Babylonian Dragon-Legend and the Legend of Eden. I will take first the Garden Paradise motive, since the links with other legends appear to be clearer in this case.

In an article entitled "The Goddess of Life and Wisdom"[1] Dr. W. F. Albright discusses the mythological affinity between the Garden of Eden and the Vineyard Paradise of Siduri-Sabitu (serpent goddess). The former is, he claims, one of the main offsprings of the latter, and he points out that in the Epic of Gilgameš,[2] which describes this hero's journey in search of Utnapishtim (who had been translated to dwell with the gods), Gilgameš arrives at the Vineyard Paradise of Siduri and sees there "the tree of the gods."

[1] *A.J.S.L.*, Vol. XXXVI.

[2] *Epic of Gilgameš*, Sir E. Wallis Budge, British Museum.

Albright again draws a comparison between the assistance given by Siduri to Gilgameš and that given by Ninkasi to Lugalbunda when he was " sent by the gods to obtain the tablets of fate-powerful amulets by which the gods maintain their position as lords of the universe—which were stolen by the gigantic Zû bird. With the help of Ninkasi, Lugalbunda succeeded in intoxicating the bird and regaining the tablets " (p. 268). Ninkasi, he claims, whose consort was Pa Gestindug—the Good Vinestalk, is equivalent to Siduri; and he says further, " From a hymn in honour of Ninkasi, published by Zimmern, we learn that Ninkasi was the daughter of Nintil, mistress of life like Siduri, Queen of the apsû, and of Enki (Ea) its king. Her libations mingled with the Tigris and Euphrates, giving them powers of fertility, a species of sympathetic magic " (p. 260). Again—"As ' the virgin ', Siduri (Sirtur) is properly an appelation of Ama-geštinanna, ' the mother vine of heaven ', and the vineyard of the former is her rightful estate as goddess of the vine " (p. 264).

According to Langdon,[1] Gestin, goddess of the vine was one of the oldest deities of Mesopotamia—" the first deity worshipped by this most ancient of peoples was mother-earth under the specific name ' goddess of the vine ' (p. 9). . . . As consort of the god of heaven she was Geštinanna, ' vinestalk of heaven ', or Ninanna (heavenly queen) which is equivalent to Innini " (p. 49). Albright concludes, " the characteristics of Siduri-Sâbitû place her in a cycle revolving about Tammu and Ishtar and other deities of the cult of Eridu, where we find virgin-goddesses and deities of wisdom and healing, vine-goddesses and genii of life " (p. 262). . . . " The name of S(š)iduri cannot be separated from Sirtur (Ze-ir-tu-ur, Sirdu) mother of Tammuz—the first ' u ' has been dropped by dissimilation " (p. 262).

If then Siduri-Sâbitû reflects these early goddesses, who were consorts of the gods of the early religious cult of Eridu, her Vineyard Paradise is also to be compared to " Eridu full of abundance " and other representations of the abode of Ea and his consort. We may conceive of the Garden of Eden and the Vineyard Paradise of Siduri-Sâbitû as being each a development, mythologically speaking, of the same complex of ideas which gave rise to the concept of " Eridu full of abundance ". Of this Paradise we read :

" In Eridu in a pure place the dark kiškanu grows
Its aspect is like pure lazuli branching out from the apsû,
In the place where Ea holds sway, in Eridu full of abundance,
(His) chamber a recess of the goddess Engur.

[1] *Tammus and Ishtar*, S. Langdon.

In his pure house is a grove shadow extending into which
no man has entered;
There are Šamaš and Tammus.
Between the mouths of the two rivers are the gods,
Kahegal and Igihegal (the genii of Eridu)
That kiškanu one has gathered, over the man the incantation of the apsû he has recited;
Upon the head of the man possessed he shall place (it).[1]

Here we have reference to a "grove shadow-extending", to a plant of healing which grows there, and to incantations performed over those who require its healing properties. Also there is reference to the "mouth of the rivers", as the location of the Garden Paradise.

According to Jastrow[2] and Albright[3] this abode of the gods was conceived to be somewhere in the direction of the source of the Tigris and Euphrates, as was the Vineyard Paradise of Siduri-Sâbitû, and also, it has been supposed, the Garden of Eden. Albright points out that Gilgames in his search for Utnapistim came to the Vineyard Paradise of Siduri-Sâbitû at the edge of the world, and that this paradise of the vine-goddess is known to be in the mountainous region to the north-east. Albright advances the opinion therefore that the pi-nârâti or "mouth of the rivers" to which Utnapishtim was translated 'to dwell as the gods', is not located at the literal mouth of the rivers, but at the sources whence these rivers flow.

In another text the dwelling place of Enki (Ea) is described as follows:

"The mountain (X) is the holy place
Holy is the place where you are
.....
There Enki and his consort lay
That place was pure, that place was resplendent.
Alone in (X) did they lie
Then Enki with Ninella lay.
That place was pure, that place was resplendent".[4]
(Col. I, 1-12.)

Commenting on this passage, Jastrow says: "One would be inclined to guess that the name (X) is another designation for Eridu, the central seat of the cult, except that there are no mountains in South Babylonia". He suggests that the dwelling place of Enki and his consort is conceived as being in the mountainous region of North Babylonia and Assyria, perhaps the supposed

[1] Cuneiform texts from Tablet in British Museum XNI, 46, 183ff.
[2] "Sumerian Myths of Beginnings" *A.J.S.L.* Vol. XXXIII.
[3] "The Mouths of the Rivers," "The Location of the Garden of Eden" *A.J.S.L.* Vol. XXV.
[4] S. Langdon, *Sumerian Epic of Paradise, the Flood, and the Fall of Man*, Univ. of Penn. Museum, Publications of the Babylonian Section, Vol. X.

sources of the Tigris and Euphrates, and that the pi-nârâti to which Gilgames went in search of Utnapishtim is also in this region (p. 182).

Others again cast doubt upon this interpretation, maintaining that the " mouth of rivers " means the literal mouth of the Tigris and Euphrates. They maintain that the dwelling-place of the gods is associated with Tilmun-Bahrain, an island in the Persian Gulf. For example, Fr. E. Burrows, S.I. claims that " the early Sumerian location of Paradise (II) in Tilmun-Bahrain is practically certain ".[1] He interprets the biblical ' res ' or ' head ' of the rivers, in terms of the current distinction in Sumerian times between the ' head ' and ' tail ' of a river. The ' mouth ', he maintains, is naturally associated with the ' head ', and the latter refers not to the sources but to the literal mouth.

One wonders whether both these views may not be reconcilable if we admit the fact that ' paradise ', being an idealized abode, is not confined by geographical limitations. For after all ' paradise ' is an echo of the human soul which, escaping from the limitations of reality, soars with its visions (based upon concrete realities of a more intimate nature in the first instance no doubt) to the distant regions of hope and desire. These must be sufficiently far removed from reality to be potent in the fulfilment of desires unrealizable in the world as known to man.

It seems reasonable to suppose that the early Sumerians visualized ' the abode of Ea ' as resembling his city at Eridu or a spot sacred to his cult in the island of Bahrain. But that the god was also conceived ' as king of the apsû ' or under-the-world ocean, suggests that the idea of the god's abode was a movable concern. Discussing the under-world abode of Ea, Mr. Dougherty says : " There are clear indications that Ea's main jurisdiction was associated with the earth and the water under the earth. He was known by the name Enki before the name Ea came into common usage. The designation Enki=the divine land of the earth or the divine lord of that which is below ; Ea=the god of the house of water or watery domain. Another ideogram employed to represent Ea was BE. Since BE has the similar value naqbu, ' fountain ', from the root naqâbu ' to break through from the depth under the earth ', it can be seen that the cult of Ea was connected with the subterranean supply of water. Hence Ea was termed Lugal-Zu-Ab (=Šar apsi) ' the King of the deep ' or ' the king of the abyss '. Because Ea was regarded as the deity of the water under the earth which broke forth into fountains and springs, this beneficence of Ea must have been associated largely with that fertility of the soil which was

[1] " Tilmun-Bahrain-Paradise," *Orientalia*, No. 30. Romae, Sumptibus Pontificii Instituti Biblici, 1928.

the result of natural irrigation ".[1] The conception of Ea as god of the underground ocean provides us with a picture of the extended activities of the god whose central cult was on the Persian Gulf, and suggests also an extended picture of ' the abode of the god ' as located somewhere in a region whence springs and rivers bubble up from the underground to supply the needs of man.

Such an extension of ' the abode of the god ' to an under-world ocean would be in keeping with the god's divine function of sending the beneficial rains and floods to irrigate the land for the purposes of agriculture. This is a prominent feature in the Zû myth, and seems to have been the most important feature in the incantations of this period. Fr. Burrows himself appears to suggest this possibility when he says : " There is some reason for suspecting a combination of variant traditions, one of which would refer to Tilmun (cf. Poebel U.M.B.S. IV. 1, p. 63); but perhaps the description as it stands may be well enough verified of Tilmun or *an idealized Tilmun.*[2] A spot far away on the Persian Gulf regarded as the source of all the rivers might be intended ". But if so, why not the supposed sources of the rivers Tigris and Euphrates, which were the most significant rivers in the life of the people ? Why not a far-away spot somewhere beyond the region of ' the world's end ' where Suduri's Vineyard Paradise is supposed to be situated and to which Gilgameš came in his search for ' the abode of the gods '. Speaking of this epic of Gilgameš, the writer continues : " If the epic contains material reminiscences of the Persian Gulf, it does not follow that the author intended the quest to lead to this goal. . . . Gilgameš goes first to the mountain gate of the sun, guarded by the scorpion-giants ". (IX, 3.) Then he follows " the way of the sun for 12 double hours through darkness and so comes out into the light on the shore of the ocean . . . the scorpions are explicitly described as the guardians of the sunrise and sunset (IX, col. 2, 9).... Gilgameš goes from west to east or from east to west, by way of the north . . . he has travelled a long road, the out-going of Samas. The hero arrives on the hither shore of the eastern ocean. Here is Siduri-Sâbitû " (p. 12). Paradise may well be conceived then as being somewhere beyond the sunrise and the sunset where the sun travels through darkness (the night ?)—a place beyond the end-of-the-world, where there is an apsû or under-the-world ocean, whence Ea sends the fresh streams, turned from bitter water to sweet, to bubble up as springs at Bahrain, at the sources of the rivers, and in all other places, for the use of man—a place which is the idealized

[1] *The Sealand of Ancient Arabia*, Raymond Philip Dougherty, Yale University.
[2] Italics mine.

reflection of an earthly paradise or 'abode of the gods' in the centre of the known world, the cult city of Ea, or a spot sacred to his memory.[1]

Albright says: "The characteristics of ancient myths . . . are sparingly selected from available religio-magical motives, ordinarily with an economic basis". Just as Siduri was goddess of the Vineyard and, as such, associated with the productivity of the soil, so were Enki (Ea) and Tammuz the gods of crops and agriculture. It seems probable therefore that a common economic motive associated both the 'Paradise of the gods' and the Vineyard Paradise of Siduri with the rivers which watered the vineyards and the fields. For would not the gods inevitably be conceived as presiding over the sources whence the fertilising waters flow?

That the sources of the rivers Tigris and Euphrates were associated with a religious cult is evident. Quoting from Albright again: "The fountains from which the Tigris and Euphrates flow were regarded with superstitious awe from the earliest times to the present day. Shalmaneses III visited the sources of the Tigris at least twice. His visit is described in Obelisk (pp. 69 ff.): 'To the source of the river Tigris, where the waters flow forth I went; the weapon of Assur I cleansed there, sacrifice to my image I set up there'. . . . And on the bronze gates of Balawat the journey in 853 is described: 'Into the sources (*i.e.*, the crevices from which the river emerges) of the river I entered, sacrifices to the gods I offered, my royal statue I erected'".[2] And again he points out that "Art and mythology pictured the sources as springing from a vase or vases in the apsû (see Ward, Seal Cylinders, pp. 213-18). That the group really represents the two rivers is clear from the cylinder of Sargon the elder (Ward Nos. 26 and 156) portraying symmetrically two heroes of the Gilgameš type holding vases from which streams gush, to provide water for vegetation (indicated by

[1] The Indians of the Klamath River, North California, with whom I was acquainted last summer, used an incantation formula (which will be published later) for the purification of those who had been contaminated by contact with the dead. The incantation pictured the sun-ikxareyav (i.e. mythical hero) as travelling through the the sky, and, after sinking in the ocean in the west, as making 'medicine' somewhere at 'the other-end-of-the-world' in a mythical sweathouse. This was a replica of the sacred sweathouse in their central village of Katimin, in which the ikxareyav 'came into being', and in which the 'medicine-man' dwells during the pikiavic or fixing-of-the-world ceremony, which assures fresh supplies of fish and acorns, good health, and warm weather in the coming season. At one end of the world there was an ocean into which the river flowed and beyond which the sun travelled. Then the sun-god rose again in the east. At the-up-river-end-of-the-world there was believed to be an ocean in which the river was apparently believed to rise, which was apparently connected with the ocean into which the sun had sunk. This ocean was somehow confused with Klamath Lake in which the river does rise.

[2] *Beiträge zur Assyriologie*, VI. 1. 55.

sprouts) and herds (two buffaloes) . . . Ward No. 648 exhibits Ea in his subterranean abode surrounded by the waters of the apsû, the escape of which is prevented by two genii who stand at the gate posts " (the Sunrise and Sunset ?) (p. 173).

Now in the case of the Eden Legend there is no apparent reason why the Garden Paradise should not be associated with the sources of the rivers, but in the case of the earlier texts one can see how the association of an ' abode of the gods ' with the sources of the rivers may well be the natural correlate of the religious ritual of an agricultural people whose subsistence depended upon the flooded rivers.

Incantations for the fertility of the soil take the form of supplications on the part of the goddess to the god to renew the life-giving properties of nature. The god is conceived as having fallen asleep and the goddess as going in search of him to awaken him from the sleep of death, upon which he sends the life-giving waters to fertilize the soil. Thus Innini calls upon Tammuz, and Tammuz replies :

" Oh brother, the verdure, where is it taken ?
Who has taken, who has taken ?
The plants from me who has taken ?
My sister, that which is taken, I restore to thee
Oh Innini, that which is taken, I restore to thee ".
(lines 11-15.)

And again :

" Whom shall I embrace, whom I shall I embrace ?
Thee I would embrace, yes I would embrace
Thee, oh my husband, I would embrace.
(lines 42-44.)

.....

He that from the flood is risen, I would embrace.
Return, oh lord, create the rising waters, oh lord create the rising waters ".[1]
(lines 47, 48.)

Similarly Ninella appeals to Enki to supply a city established by him with abundance of water :

" So that water may flow out from thy great reservoir
May the city drink water in abundance :
May (X) water in abundance (drink) ".
(Col. II, 1-3.)

and Enki (lines 12–19) replies, promising to accede to her request.

" Bring the flow of waters as a blessing (?) from its place
.....
Sweet water from below will flow ".
(*Ibid.*, lines 1-11.)[2]

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[1] S. Langdon, *Babylonian Liturgies*, pp. 100–103.
[2] S. Langdon, *Sumerian Epic of Paradise, the Flood, and the Fall of Man.*

A description then follows of the marriage of the god and goddess, after which the fields are inundated :

" Enki, the father of Darusalnunna uttered his word,
The fields through Ninharsag were inundated
The fields received the waters of Enki ".
(*Ibid.* lines 31-33.)[1]

It is significant that this description of the god and goddess, uniting to secure the inundation of the fields, follows on the description of the abode of the gods previously referred to :

" The mountain (X) is the holy place ", etc.

This is a clear indication that the concept of a Garden Paradise is associated with the inundation of the fields.

In the same series there is also an account of a primaeval garden in which Enki appears to Takku as a gardener and offers him some produce of the soil and gives instructions as to the use of the trees. The abundant irrigation of the fields is also alluded to. Jastrow describes these texts as a series of incantations for the fertility of the soil " in the course of which primitive myths are introduced dealing with the manner in which at the beginning of time the world was made habitable and fertile through Enki and those associated with him ", (p. 131). He points out that the idea of the fertilization of the fields as a result of the marriage of the god and goddess is a motive for which many parallels may be found.[3] " In our tablet this view is carried back to the beginning of things as the manner in which the earth was made habitable for man and animals through the plentiful irrigation of the fields through ' the seed ' of the god Enki ". (p. 121). And he continues : " If the text dealing as we have seen with the beginning of things contains at any point an analogy with the biblical tradition, it is to be sought in this description of a primaeval garden as a habitation prepared for mankind ". (p. 132).

In these early times, then, incantations for the fertility of the soil were being accompanied by pictures of the union of god and goddess in their paradise, and this idea was being carried back to the beginning of time as an original act of creation on the part of a beneficent deity who first made earth habitable for man. Here in his living social situation we may catch in the very act of birth the associative links which obtain between the primæval garden and a creation legend, and can see also a very real reason for the association of the paradise and its accompanying scene of creation with the sources of the rivers. Once the abode of the gods was conceived of as being in this region, there would be some object in the long journey of

[1] *Ibid.*, S. Langdon, *Sumerian Epic of Paradise, the Flood, and the Fall of Man.*

Gilgames in search of Utnapishtim, who was translated to dwell as the gods, and for his encountering on his journey thither the Vineyard Paradise of Siduri-Sabitu in which he saw the "tree of the gods", also for the attempt of Etna to reach the god's abode and obtain the plant of begetting and Adapa's journey to the gates of heaven,[1] where Tammuz and Ningishzidda, guardians of the Gate, offered him the bread and water which give eternal life.

We have, then, in this early religious culture-complex the mythological germs of the Eden situation:

(1) Incantations for the fertility of the soil and incantations for the cure of sickness, accompanied by
  (*a*) a description of the marriage of the god and goddess.
  (*b*) myths of origin which relegate these creative activities to an original act of creation and the planting of a primaeval garden for the use of man;

(2) A picture of the paradise of the gods
  (*a*) in which the marriage of the god and goddess is conceived as taking place, which brings about the fertility of the soil.
  (*b*) in which grow the plants of healing, of eternal life and begetting, and the 'tree of the gods';

(3) (*a*) the abode of the god and goddess in a mountain,
  (*b*) the journeyings of mortals in search of the plants of healing, begetting, and of eternal life to the abode of the gods in some distant region, presumably mountainous—possibly in the region of the supposed sources of the rivers Tigris and Euphrates.

In the midst of this culture-complex we find the serpent figuring as an embodiment of the deity who dispenses these gifts to man. Langdon[2] says: "Litanies and theological texts refer to Tammuz by a title which occurs as frequently as any other—in this title we have evidence that the deity was concerned with serpent worship . . . Not only is Tammuz but that parasitic type of Tammuz, Ningishzida . . . called "the great serpent dragon", but the same title is applied also to the mother goddess herself. The title in Sumerian is ama-ušumgal-anna, a name which is regarded by the theologian apparently as the most important of all titles of Tummuz . . . There is ample evidence that Innini herself was originally connected with ophidian worship. In the early period the serpent motif appears in serpent heads springing among the flowers from the shoulder of the goddess. In the age of the Ur, Isin, and first Babylonian

[1] Jensen, *Mythen and Epen* p. 94 and Rogers Cuneiform parallels to the C.T. p. 73. Jensen, Ibid, pp. 100—110.
[2] *Tammuz and Ishtar*, pp. 111—115, 129.

dynasties, she is represented holding a caduceus, conventionalized form of staff mounted by the heads of two serpents looking in opposite directions (Ward, *Seal Cylinders*, pp.158 ff.). This form of the caduceus is clearly developed from the classical form seen on the vase of Gudea where serpents wind about a perpendicular post. On the vase of Gudea the cadaceus represents Ningishzida ". Albright says : " We can scarcely avoid the conclusion that Siduri-Sâbitû was also a serpent-goddess in one or more of her forms ".[1] Fergusson suggests,[2] that Ea was a serpent deity and that the serpent deity on several of Ward's cylinder seals may be Ea. That there was an association between Ea and the serpent is evident from a plate published by Sidney Smith of the British Museum[3] in which " the incantation god is in a boat bearing a serpent's head on the stern."

We have in this early culture-complex, then, a serpent-tree-and-water symbolism, figuring in association with a sacred grove. In this picture the evil aspect of the serpent is in abeyance, but in his guardianship of the grove and its privileges we catch glimpses of a more sinister *rôle*, *i.e.*, the withholding of gifts from those who journey in search of them—for example, in the serpent's stealing of the plant of life from Gilgameš and his consequent failure to achieve immortality. As bestower of fertilizing rains, and the arbiter of fate, the serpent-deity was naturally regarded as responsible also for sickness, death, and destructive floods.

The more definitely sinister aspect of the serpent-dragon and its relation to a conflict between 'good' and 'evil', however, is relatively absent from this rural picture of a beneficent serpent-deity bestowing his gifts of fertility upon a thirsty land and his gifts of healing and begetting upon his people.

Jastrow suggests that the portion of the texts dealing with the purification-rite of the goddess after the birth of her offspring is introduced as a fitting symbol for the covering of the fields with verdure after inundation. He maintains that the portion of the text consisting of an incantation for the cure of sickness conveys the idea that man is doomed to die. He repudiates the explanation of the passage given by Langdon, *i.e.*, that death is a punishment for sin—a motive which, he maintains, is lacking in these early texts and only introduced later by Pauline theology. He compares the passage with the picture of Gilgameš who " smitten with disease and fearing lest he die, comes to Siduri's vineyard in search of life," and Siduri's reply :

[1] *Goddess of Life and Wisdom*, pp. 274 ff.
[2] *Tree and Serpent Worship.*
[3] *Babylonian Historical Texts*, p. 73.

"Why dost thou wander from place to place
The life which thou seekest thou wilt not find
When the gods created man-kind they fixed death for mankind
Life they keep in their own hands".

Jastrow suggests, in other words, that the conflict of good and evil is lacking in these earlier texts.

The 'evil' aspect of the serpent is apparently to be sought not so much in this more peaceful background of social life as in the noisy atmosphere of political strife. For when we turn to the Babylonian Legend of Creation we find it dominated by a Dragon-Legend in which the serpent, Tiamat, is slain by Marduk, who now assumes the *rôle* of creator.

We may return now to the first and second themes of the Eden Legend, which were disregarded during the analysis of the groves theme, *i.e.*, to the creation legend, and the problem of conflict with which it has become entangled. Sir E. Wallis Budge says :[1] "There was more than one version of the story of creation current in Babylonia and there is good reason to suppose that the Legend of Creation was added to the Legend of the Dragon as a glorification of Marduk, just as the story of the Flood was added to the narrative of the exploits of Gilgames". Again : "The triumph of Marduk over Tiamat and Kingu (Tammuz) suggests that the struggle for a new order of the gods opposed to the older and more primitive serpent-cult was taking place. It is probable that every great city in Babylonia whilst accepting the general form of the Creation Legend, made the greatest of its local gods the hero of it. It has long been supposed that the prominence of Marduk in the legend was due to the political importance of the city of Babylonia. In the case of Marduk, after slaying Tiamat, he is invested by the gods with the power that would cause every command which he spake to be followed immediately by the effect which he intended to produce". (p. 19).

In the Babylonian Creation Legend there is but little mention of the creative activities of Apsû (Ea) and Tiamat, who have now been relegated to a lesser *rôle* as progenitors of the gods. Yet their very inclusion, in this capacity, suggests their earlier importance as creator deities.

"Apsû the oldest of beings their progenitor
Musumu Tiamat, who bore each and all of them
Their waters were mingled into a single mass".

At the same time the assertion that 'the goddess Aruru with (Marduk) created the seed of mankind' betrays the earlier

[1] *Babylonian Legends of Creation and of the Fall of Man*, British Museum.

conception of the marriage of god and goddess as a necessary part of the *rôle* of creator.[1]

The rest of the legend proceeds in the more matter-of-fact strain of the biblical legend, and creation is conceived as taking place at 'the word' of the god:

> "Marduk laid a rush mat upon the face of the waters,
> He mixed up earth and moulded it upon the rush mat,
> To enable the gods to dwell in the place where they fain would be
> He fashioned man.
> The goddess Aruru with him created the seed of mankind.
> He created the beasts of the field and (all) the living things in the field.
> He created the river Idiglat (Tigris) and the river Puratta (Euphrates) and he set them in their places,
> He proclaimed their names rightly".[2]

One may compare this description of the serpent-dragon with the myth of the gigantic Zû bird which, according to Albright, "has arisen from the fusion of two myths, *i.e.*, the struggle between the monster of chaos and the Sun-God, and the myth of the seizure of the divine drink, under the guardianship of the goddess of alcohol, by the thunder-eagle, who bestows it in the form of rain upon the thirsty land". Clay[3] points out that the legendary Zû-bird was a power which invaded Babylonia, possibly the power whose emblem was the eagle (p. 42-43). And that similarly "the serpent may represent powers which were ravaging the lands (p. 36). . . . The symbol of an invader of the following dynasty, whose name was Ningishzidda in Sumerian, was the serpent. . . . The well-known goblet and bas-relief . . . clearly indicate that the serpent was the emblem of Ningishzidda". He further alludes to the phrase: "after the cities sighed for relief when Tamtu the serpent was aggressor, etc.", and points out that from omens (*e.g.*, "If a man bear a child and it has the face of a serpent, it is

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[1] Jastrow (*Sumerian Myths of Beginnings*, p. 118) says: "The scene of the union of the god and goddess (in Sumerian text) sheds a new light upon the well-known account given by Herodotus (Bk. I, p. 181) of the sacred room at the top of the Ziggurat or state tower of the god Marduk at Babylon, where there was a richly-adorned couch occupied by a woman 'chosen for himself by the deity out of all the women in the land' and by the god who 'comes down in person into this chamber and sleeps upon the couch' . . . the god—in this case Marduk—was no doubt represented by a priest, whilst the woman who had to be a virgin, represented the goddess. Marduk's festival is the New Year's tide, celebrated in the spring of the year, and in the light of this passage in our tablet, it is reasonable to suppose that the marriage of Marduk and his consort Zarpavit was symbolically represented at the time of the vernal equinox . . . so as to insure the fertility of the fields."

[2] *Babylonian Legends of Creation and the Fall of Man*, British Museum.

[3] Albert A. Clay "A Hebrew Deluge Story in Cuneiform and other fragments in Pierpoint Morgan Library," Chapter IV (*Yale Oriental Series, Researches*, Vol. V, 3).

Ningishzidda who has ravaged the land "), it may be gathered that Babylonia had suffered a similar upheaval when Ningishzidda was king.

The social deterioration of the ' serpent ' appears to be due partly to political struggles with people whose emblem was the serpent, and partly to the conquest of a faith, which apparently had its roots in the old religious cult of Mesopotamia, but was being superseded by another faith probably with a similar origin and a different history. One can see how the evil aspect of the serpent, inherent in the nature of an all-powerful deity, became accentuated by the political struggle against powers whose emblem was the serpent, and whose evil doings were thus recorded in the myths and legends of their enemies in terms of serpent-symbolism.

That the attitude of antagonism to the serpent-cult was present in biblical times is well known. Jewish history, as recorded in the Bible, reveals a consistently antagonistic attitude towards the serpent and grove cults of surrounding cultures, and a vigorous attempt on the part of the prophets of God to prevent the setting-up of the serpent and the asherah in the temple of Jerusalem.[1] Fergusson says : " When the writers of the Pentateuch set themselves to introduce the purer and loftier form of Elohim or Jehovah, it was necessary to get rid of that earlier form of faith which the primitive inhabitants of the earth had fashioned for themselves. The serpent as the principal deity of that early religion was cursed above all cattle and above any beast of the field, and in future there was to be enmity between the serpent and the man born of woman. . . . The writers of the Pentateuch must have regarded with horror this form of worship since they thought it necessary to denounce it in the strongest terms ".[2]

It is doubtless to this political struggle, which had its roots in the past, that the serpent in the Eden Legend owes its evil aspect, for whilst it seems likely that a dual aspect of the serpent was present in the grove-cult from the start, this would not in itself account for the rigour with which the wrath of God was visited upon the serpent. The subservient and insubordinate aspect of the serpent here reflects the mental attitude of the Jewish people towards the serpent-cult at the time when the legend was embedded in the Hebrew scriptures.

We may contrast this legend with a somewhat similar legend of the Yezidi.[3] In this legend, Satan argues with God regarding

[1] Thus we read in II Kings, XXI, 3, of Manasseh setting up altars for Baal and making an image of the asherah, which was placed in the temple, and was displeasing to the God of Israel.

[2] Fergusson, *Tree and Serpent Cult.*

[3] *The Devil Worshippers*, Isyah Joseph.

the treatment of Adam, and wins his point, upon which he is delegated by God to deal with Adam himself, and himself turns Adam out of the garden—a version which reflects the social attitude of the Yezidi towards Satan or Taûz, who still remains a god in possession of his rights and who, according to Sir James Frazer, is, interestingly enough, a type of Tammuz or Adonis.[1]

In view of these facts I think one may claim that the evil aspect of the serpent is relative to a point of view. To one group the 'serpent' symbolized a protecting deity or political emblem, to another he was an evil dragon, symbolizing a political enemy or a religion which must be trampled under foot.

This brings us to the end of mythological evidence—since one must come to the end sooner or later—the interpretation of which by expert authorities in this field appears to be sociologically significant. The historical processes involved in the actual compilation of the Eden Legend may be unknown, but from the inner structure of the mythological texts and their relationship to the social environment of their day, it seems justifiable to assume that what may have been at one time a simple grove-and-serpent cult became mythically associated with the sources of the rivers in connection with the fertility rites of an agricultural people, and that this concept of a sacred grove, thus associated also with a myth of beginnings, was carried along on the wave of a dominant religious mythology into the ever-changing complexity of conflicting ideals on the part of rival political powers, and so came to absorb into its creative motive that of the conflict between 'good' and 'evil'. In the course of time the serpent changed from a beneficent deity to a serpent-dragon, 'destroyer of the order of the gods' and an apt symbol for the expression of 'evil' in a purely sociological or moral sense. The various meaning-values of the serpent-symbol in time and place reflect the changing social situations through which it passed during its long career as a social symbol. Without documentary historical records we should not be able to account at all for the character of the serpent-Satan, nor for the latent meaning thesis of the Legend of Eden.

One is tempted, however, to probe even further into the past; to peep behind the veil of mythology as historically recorded, and to

[1] See *Adonis, Attis, Osiris*, II edition, pp. 186–9. "The character of Tammuz or Adonis as a corn-spirit comes out plainly in an account of his festival given by an Arabic writer of the tenth century. In describing the rites and sacrifices observed at the different seasons of the year by the heathen Syrians of Harran, he says: 'Tammus (July)—In the middle of this month is the festival of el-Bugat, that is, of the weeping woman, and this is the Ta-uz festival which is celebrated in honour of the god Ta-uz. The women bewail him because his lord slew him so cruelly, ground his bones on a mill and then scattered them to the wind'. Ta-us . . . is none other than Tammuz."

review evidence from other sources which may throw a light upon the social backgrounds of this religious culture-complex from which the legend sprang.

It seems likely that the groves of the present day in Palestine, and the serpent and asherah cult, against which the prophets of Israel strove, were a ' hang-over ' from an older phase of the grove-and-serpent cult such as existed in early Mesopotamia, of which the mythological grove appears to have been a special development. It is now definitely established by recent excavations in Palestine at Beth-Shan and Kirjath-Sepher[1] that serpent-deities, resembling those of Egypt and Mesopotamia, were worshipped by the early Canaanites amongst whom the Hebrews settled. " It is possible that Bethshan means ' the house of Sakhan, or Shakhan ', which is the Mesopotamian serpent deity. A deity named ' Shaʿan ' is actually named in a Babylonian letter; and on a cylinder seal (Univ. Museum, Penn.) there is a *male* figure of this deity, who is named ' Shakhan, son of Shamash (Sun-god) ' . . . One of the most important recent discoveries in the excavation of Kirjath-Sepher is part of a limestone stele of the serpent-goddess of the ancient Canaanites belonging to the period 1800-1600 B.C.... A large, well-modelled serpent is coiled around her legs " (p. 107-8).

If this is so, then the groves of the present day in Palestine and Arabia should throw an interesting side-light on the grove-cult of early Mesopotamia of which the mythical grove of the legend of the Garden Paradise is doubtless a reflection. The conception of a sacred grove located at the source of the rivers is in keeping with other manifestations of the grove-cult in this area, such as, for example, the planting of a grove by Abraham beside a well which he had dug, and his calling upon the name of the Lord, after which the angel of the Lord appeared to him and promised that his seed should be as the sand upon the seashore.[2] Just as Abraham planted a grove near the well or resting-place to ensure the protection of the deity, so also may a mythical grove have been conceived of as situated at the sources of the river to ensure the god's blessing on agricultural pursuits. The cult of the grove at the present day as described by Robertson Smith shows that the association between groves and wells, or springs of water, is very common in these parts : " Sacred wells in connection with sanctuaries are found in all parts of the Semitic area, but are less prominent among the nomadic Arabs than amongst the agricultural peoples of Syria and Palestine . . . South Arabians regard medicinal waters as inhabited by jinn usually of serpent form... . . where a

[1] *Digging up Biblical History*, J. Garrow-Duncan, Vol. II, p, 108.
[2] Gen. XXII.

tree was worshipped as a symbol of an anthropomorphic god we sometimes find a transformation legend directly connecting the life of the god with the vegetative life of the tree. . . ."

An interesting interpretation of the grove is suggested by Miss Blackman's article on "Sacred Trees in Egypt,"[1] in which she says: "The graves and tombs of the shêkhs have sacred trees which have curative properties, and the soul of the shêkh is believed to reside in the tree". Also, "these trees must be treated with reverence and no leaves or branches must be plucked by profane hands". She points out that this belief has a possible connection with the old idea that the 'bai' was closely associated with a tree or grove of trees; "as the tree now grows up from the body of the shêkh, so in ancient times a sycamore tree was supposed to have sprung up from the corpse of Osiris, and Isis on her weekly journey to the holy place of Osiris on the island of Bîgah poured out libations to the iwy tree under the shadow of which was the burial place of Osiris, and similarly made offerings to the mutz grove on the branches of which rested the 'bai' of Osiris". Sir James Frazer[2] points out also that a tamarisk overshadowing the tomb of Osiris is depicted at Hew in a sepulchre, whilst a bird is perched amongst the branches and the spirit of the dead god is believed to haunt the sacred tree.

In view of the close similarity between the *rôle* of Osiris in Egyptian religion and that of Tammuz in Babylonian religion, one rather suspects that the cult of the graves of heroes, kings and ancestors, over which were planted trees, in which the soul of the dead was believed to appear in some such form as a bird or serpent, and which was therefore conceived as possessing magic properties of healing and fertility, lies somewhere at the back of grove-and-serpent cult of early Mesopotamian religion and of the mythical sacred grove-abode of the serpent deities, in the midst of which grew trees and plants of life, healing and begetting.[3]

Sir James Frazer mentions that "traces of the Tammuz cult in Syria cluster round a vale near Aphaca, at present represented

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[1] *Journal of Eg. Archaeology*, Vol. XI, Part I, pp. 36 ff.

[2] *Adonis, Attis, Osiris*, VI, p. 110.

[3] We may compare the Grecian situation. In Miss Harrison's *Themis* we read: "The traditional kings of Athens were conceived of as snake daimons. Cecrops gives his name to the Cecropidae . . . he is an ancestor invented to express the unity of the group . . . The individual members of the Cecropidae die . . . Cecrops . . . lives forever as a snake; he is the spirit, the genius of the race; he stands for the perennial renewal of life through death" . . . "The kings of Athens are said to appear as snakes after death." (pp. 267–271.) Whilst of Phrygia, where a serpent god is head of the pantheon, she says: "There was a clan called the snake-born . . . reputed to be descended from a sacred snake of great size, who had once lived in a grove" (p. 129).

by the modern Afga at the head of the wild romantic gorge of the Adonise river in the Lebanon region mid-way between Bybles and Paälbek. Here tradition says the mangled body of the hunter Tammuz was buried. Here are to be found monuments of his worship, one of which is a great temple of Astarte ".[1]

Myth and fact are strangely interwoven in early records—history recording kings who appear as gods in mythology—and there is some evidence that the cult of the 'god' in Mesopotamia was closely associated with the deification of kings and ancestors, who reflected the ideals and laws of their people.[2] Ningishzida who stood at the gates of heaven and bestowed the gift of eternal life upon Adapa is claimed also as a king whose emblem was the serpent, and who as a 'serpent-dragon' ravaged the land. Clay says :[3] " Tammuz was not originally 'the personification of the son of the spring-time' or even 'the personification of some kind of wood' as has been said, but the new dynastic list shows he was a human being and fourth King of an early Eroch dynasty[4]. . . We have now considerable data for the reconstruction of a chapter in the history of Babylonia, and incidentally also of Syria, of a very early period, namely, the second earliest known post-diluvian dynasty, which began to rule about, or prior to, 4000 B.C. There is no extant inscription belonging to this period that has as yet been found, but references to three of the rulers of this dynasty and their contemporaries are frequently made on later inscriptions. These furnish us with material which makes it possible to rewrite a fairly complete outline of the history covering the reigns of these three important kings, Lugal Marda, Tammuz, and Gilgames. Tammuz followed Lugal Marda as king of Erech. Ningishzidda, his father, who, as we now learn from an omen, 'ravaged the land', is but for this fact known only as a deity, with his habitat at Lugash. Doubtless he was king of that city ". There seems to be a similar semi-real feeling about Ea. For instance, Jastrow compares the 'Myth of Beginnings' in which Ea figures as a deity with the legend given by Derosus[5] " in which an intelligent being Oannes, is described as coming up out of the water where the Red Sea borders on Babylonia (*i.e.*, the Persian Gulf) and giving instructions to man in everything pertaining to the arts, all manner of knowledge including the founding of temples, settlements of cities, seeds and harvesting of crops, and things pertaining to the

[1] *Adonis, Attis, Osiris*, Chapter II, pp, 25–26.
[2] For a discussion of the relationship between gods and kings, see *Kingship* by A. M. Hocart.
[3] *A Hebrew Deluge Story*, pp. 43—44.
[4] Poebel, *Historical Texts*, p. 88.
[5] Cory, *Ancient Fragments*, pp. 21 ff., and Rogers, *Cuneiform Parallels*.

life of man. Oannes, pictured as a man with a fish-skin, has long been recognized as Eaki or Ea, and it would seem that we have in this portion of Langdon's text the prototype of the traditions reported by Berosus ". An inscription[1] of the times of Ashurbanipal shows that kings were worshipped as ancestors, and that this custom was an old one which was revived by Ashurbanipal " The rules for making offerings to the dead and libations to the ghosts of my ancestors which had ceased (been abolished) I re-introduced ".[2]

It seems possible then that the thread of ideal continuity which runs through the concept of kingship and deity runs also through the concept of the grave—as the sanctuary of a deified king or ancestor, and the cult of the sacred grove, with its trees of begetting, healing and eternal life, which forms the central feature of Mesopotamian mythology and the Legend of Eden. Similarly, the serpent may have been the emblem of a kinship group, whose dead were conceived of as assuming serpent-form. As such the serpent may have become the material embodiment of deified ancestors, kings and gods—finding its way into legend and mythology as a presiding genius of the sacred grove, or as a symbol of evil because the political powers and religions it represented were objects of defeat or contempt, as is the Serpent of the Garden of Eden to-day. This change in the character of the serpent is in keeping with that of the jinns of the present day in this area, of which Robertson Smith remarks: " The difference between gods and demons lies in their relationship to man. The jinn would make very passable gods if they had a circle of human dependents and worshippers; and conversely a god who loses his worshippers falls back into the rank of a demon, as being of vague and indeterminate powers, which having no fixed relations to man is on the whole to be regarded as their enemy (p. 121) . . . the haunt of the jinn differs from the sanctuary as the jinn differs from the gods, the one is feared and avoided, the other is hopefully approached "." When men establish relations with powers that haunt a spot, it is at once necessary that there should be rules of conduct towards them and their surroundings; the god and his worshippers form a single community, let us suppose a community of kinship, and so all the social laws that relegate men's conduct towards a clansman are applicable to their relation to the god (p. 151) . . . Breaches of social order are recognized as offences against the deity (p. 154) . . . the simplest of these taboos is that which protects all the natural life of the spot " (p. 159). And again: " A species of jinn allied by kinship with a tribe of men would be

[1] Streck, *Assurbanipal* II, p. 250 f.
[2] *Cambridge Ancient History*, Vol. III, and Streck, *loc. cit.*

indistinguishable from a totem; and instead of calling the jinn gods without worshippers, we may speak of them as potential totems without kinsfolk " (p. 136).

These remarks, from so eminent an authority as Robertson Smith, are deeply significant, for if as I have suggested these groves are a ' hang-over ' of an earlier and more virile grove-cult of which the mythological grove is a special development, we may assume that this early situation was in its initial stages somewhat akin to totemism. This assumption is likely to remain forever unproved. But the water-tree-and-serpent complex is such a familiar factor in so many primitive societies, much as it is found in ancient Babylonia, that a comparison with the serpent and grove cults of present day Arabia and of early Mesopotamia is not altogether out of place, particularly as totemism is known to have existed in neighbouring civilisations such a Egypt. In Australia where the serpent is a common totem, embodying the dead of the clan and its ancestors, it has already assumed an extra-totemic significance and become something of a tribal-god, associated on account of the scarcity of water and the serpent-like form of the rainbow,[1] with thunder and lightning, beneficial rains, floods, water-falls, and deep water-holes. The serpent would be a likely symbol for deities so intimately concerned with water-supplies, beneficial rains and the inundation of the fields, as were the early deities of Mesopotamia.

Enough has been said of the social and mythological backgrounds of the Legend of the Garden of Eden. Unsatisfactory and incomplete as this analysis of the Legend of Eden may appear to experts in Babylonian mythology, it yet does give, I think, a feeling for the kind of growth-processes which have produced the formal pattern of the Legend, and drew together the symbolic material. In early Mesopotamian records one can catch a glimpse of the processes in their infancy, and of a social milieu in which the water, tree, and servant functioned as pregnant symbols playing an active part in the social mechanism. One is afforded a striking contrast to their present status, as a ' hang-over ' from the past, in our modern civilization.[2]

It may be claimed that such an analysis of formal content as has been made in the case of the Eden Legend is neither practicable nor necessary in the study of a given society such as our own, for example. Yet even in the case of the Legend of Eden, which perhaps now plays a negligible part in the social life of to-day, the acceptance of this legend as a divine revelation, without reference

[1] "The Rainbow Serpent Myth," *Oceania*, Vol. 1, No. 3, A. R. Radcliffe-Brown, etc.

[2] Compare the caduceus as the symbol of the medical profession.

to its relevance to a historic past, and coupled with the doctrine of original sin, created in European society a faulty orientation towards life and human relationships.[1] The light shed upon biblical traditions by ' the higher criticism ' did much to break the spell of this mental tyranny, and is in itself an excellent example of the practical necessity for revision of culture forms.

A critical revision of social forms in the light of the past is a healthy corrective to conservative tendencies in social life, and prevents the social machine from becoming clogged by an ignorant allegiance to worn-out creeds and forms of behaviour. The tendency to cling to traditional forms in the face of their irrelevancy to present needs and attitudes of society is a fault which has caused disaster many times over in the course of the world's history. It is the applicability or inapplicability of our social forms to the effects which they are concerned to produce that determines the efficiency or inefficiency of our social organization. An enquiry into the adaptability or inadaptability of existing forms of social organization, beliefs, and customs is necessary if they are to remain effective implements of social and mental progress. The more complex and unwieldy the nature of our social organization, the more necessary is it to revise the social machine intelligently. It may be that many societies, which appear to have become overspecialized in certain cultural traits, have done so as a result of an ineffective adaptation of cultural forms to the needs of social life—just as some animals became overspecialized in physical mechanisms and so have lost the art of adaptation to changing environment. If social science is to be of any practical value in solving the problems of social adjustment and acculturation, it is certainly necessary for the anthropologist to review cultural forms in the light of the past history of the communities concerned.

This paper is not concerned, however, with practical problems, but in pointing out that in the ultimate analysis of any given culture-form or social situation, we must always include the past as a factor in the present. And if in primitive societies we have little or no historical evidence, we are not therefore entitled to shut our eyes to the fact that the past has contributed enormously to the present situation and must therefore be allowed for in our ultimate explanation of its symbolic material. The ignoring of past history in the study of social symbolism is more than likely to blind us to the real factor in social disintegration and maladjustment, for probably in no society does the social organization function altogether harmoniously.

[1] "The Significance of the Snake in dreams," U. H McConnel, *Psyche*, No. 23.

If I have appeared to overstress the historical aspect of symbolism, it is not because I am not alive to the importance of the 'functional' aspect of culture, but because there seems to be a tendency on the part of some ethnologists to depreciate the importance of the historical factor to the detriment of social science in general.

If the lack of historical evidence in primitive societies has created in ethnologists a lack of interest in historical backgrounds, it is equally true that those who approach the study of social forms from the historical angle are apt to overestimate the importance of historical processes and fail to see anything in society at a given time but the end-product of a series of processes in the past. This point of view may actually prevent a more objective study of a living culture as it functions in present-day society. One may even go so far as to suspect all societies of being historically dependent upon forms which can be strictly accounted for in terms of history. This extreme is equivalent to that of the field-worker who, lacking all historical data, rests his explanations of social behaviour upon principles derived from an analysis of the present situation alone, or to that of the psychologist who bases his explanations of society upon psychological principles derived from a study of the individual, or even of the 'unconscious' of the individual. In any case, the ultimate explanations are inadequate.

Every society is a living organism with its own peculiar life-history, which is not likely to exactly resemble that of any other society, and it is the variations that are interesting. More and more must we be prepared to face our ignorance of the past in the study of groups that have no historical records. It is to be hoped, however, that, in time, the comparison of a number of social groups, both historically recorded and otherwise, will widen and deepen our knowledge of human society and give us a clearer vision of growth processes and historical affinities.

The student of modern sociology, who has both historical and sociological data at his disposal, has an opportunity of combining these two aspects in a more effective analysis of society than has as yet been made. The present attempt to study modern communities,[1] the history of which is known to us, with the same objective methods applied in the study of primitive societies, bids fair to produce a new and important development in social science. The objective study of social situations should, incidentally, provide

[1] I refer to such modern community-studies as that which is being carried out by Assistant Professor Lloyd Warner of the Department of Anthropology at Harvard University, who is applying methods of field-anthropology to the study of a New England Community, and Irish villages.

us with clearer insight into our own more immediate social problems.[1]

What we would seem to require in our approach to the study of symbolism is a tentative attitude of mind, realizing that much of the inner significance of symbolic material is related to a situation in past time, and is not immediately explicable in terms of the present situation. In the interaction of social forms and present needs lies the germ of our discontent as also of our ultimate achievement.[2]

Conclusion

In three successive articles I have examined three main approaches to the problem of symbolism—the individual, the ethnological, and the historical—and have sifted the evidence regarding (1) the symbolism of the ' unconscious ' as manifested in dreams,[3] (2) the symbolism of primitive societies as manifested in totemism,[4] and (3) the carrying forward of symbols and symbolic forms during the course of time, as manifested in the legends and mythology of modern society, both simple and complex.

In each of these fields of study the symbolic material is so vast and so compelling that each in its turn has held the attention of the scientist. Nor has the investigator in these several fields been able to withhold his interest from the field of his neighbour, thus encountering a somewhat possessive attitude which impedes his progress. The temptation has been to acquire a quick-and-ready synthesis for these various manifestations of symbolism by the application of hypotheses gleaned on one field of research to facts relevant to another field. This is an old error with which the metaphysician has long been familiar. Yet the very fact that these interests overlap suggests that there is an underlying basic factor common to them all in terms of which they may be subsumed under the category of ' symbolism '.

I have attempted, in this more or less philosophical survey of existing theories and methods in the study of symbolism, to waylay some of the causes of misconception resultant upon the hasty and empirical growth of this study in its various fields. It has not been

[1] For example, the satisfactory results obtained, by means of the personal interview, from the study of the personal attitudes of workers and management in the Western Electrical Co. at Hawthorne, U.S.A. and the testing out by experiment, based upon this study, of improved conditions, shows what may be done by social science to alleviate human problems in the industrial world.

[2] The introduction of a course entitled "The Individual and Society" in the 1933 curriculum of the Graduate Department of Anthropology at Yale University is a recognition of the importance of this fact in the study of modern anthropology.

[3] " The Significance of the Snake in Dreams," *Psyche*, No. 23.

[4] " Symbolism as a Mental Process," *Psyche*, No 46.

my wish to appear critical of the techniques employed in any one field, but merely to point to the necessity for distinguishing the peculiar problems involved in each case, and to stress the importance of distinguishing in each field of study between symbolic processes as such and the meaning value of particular symbols at any given time and place.

In the study of society we need a three-fold approach to the problem of symbolism; we require (1) an historical perspective which gives us the key to the formal nature of symbolism and betrays the relative and changing values of particular symbols; (2) the sociological approach by which we analyse present social situations in which symbols function and are a pivot of social orientation, or an impediment to progress; and (3) the psychological problem of the value of symbols to the individual, and the interaction of social and individual values, including also the problems of conflict and of neurotic behaviour.

The study of the symbol in legend, religion, and dream is an attempt to disentangle the ethnological from the psycho-analytic interpretation of symbols; to contrast the ethnological and historical points of view, and to place the problem of symbolism in a clearer perspective. It draws attention to the fact that whilst each of these researches necessarily involves a separate technique, all are nevertheless necessary to the study of symbolism.

All three studies have dealt with the relative and changing values, *i.e.*, of symbols, with the concept of value or meaning, and incidentally with the power of symbols to mould man's destiny. The analysis of such symbolic systems as language, kinship, totemism, legends, or dreams is each a study in itself. It is impossible to transfer the meaning value of one field of reference to that of another without committing a breach of logic.

We may study a symbolic system from the point of view of its function in society at any given time. We may relate these studies to one another in a comparative survey and obtain a time perspective. We may study individual variations from socially accepted forms of behaviour, and the way in which individuals, separately or combined, readjust the system to their needs and requirements, or become the victims of their inability to so adjust them.

The problem of conflict and disintegration is incidental to the study of symbolism, and cannot be ultimately ignored. It has been subordinated here, however, to the wider problem of social integration.

The underlying motive of all three studies of the symbol in legend, religion, and dream, is to point to the ultimate problem of symbolism as a mental process.

Underlying all manifestations of symbolism is the symbolic process itself, the formal mechanism which alone makes thinking and behaviour possible. The content and value of symbols change, but the symbolic process continues, carrying forward in ever-widening circles and deepening complexities, and also static inadequacies, the burden of our human and social drama. The study of symbolism is ultimately a study of behaviour. It is the study of man's capacity for organizing his experience, knowledge and behaviour in terms of symbols, which cohere together in cluster-systems related to his various needs and desires. It is also the study of man's inability to so organize his experience and behaviour intelligently.

But when we approach symbolism from this angle we leave behind us the concept of human values so important in the study of the social sciences, and enter upon another phase of the problem. The study of symbolic processes as such is akin to the sciences of experimental psychology or the physiology of the brain and nervous system. It is comparable to the study of such abstract sciences as mathematics, epistemology, logic and grammar, economics and political science, etc., which are not directly concerned with the 'why' but with the 'how' of behaviour. Experimental psychology quite rightly dispenses with the concept of meaning, for it is irrelevant to its immediate problem of studying the mechanism. The experimental psychologist makes an artificial abstraction for the purposes of analysis, just as does the linguist when he studies the grammatical structure of language apart from contextual situations, or when he distinguishes the problem of phonetics from that of the meaning value of sounds, or phonemes. The ethnologist similarly studies the formal aspects of kinship systems apart from their relevance to particular situations. The economist studies the principles of economics apart from all reference to human needs, as the adherents of Karl Marx would testify. Such abstractions are necessary for the purpose of analysis, but are ultimately artificial from a practical standpoint, since the systematic organization of symbols exists for the conveyance of meaning and for the carrying out of organized behaviour. It is this which gives us our mechanism, as is obvious in the case of language, but is equally true of other forms of symbolic behaviour. Were it not for the need of conveying meaning or achieving social adjustment, we should not evolve the mechanisms. The problems of meaning and mechanism are both indispensable to the study of symbolism, but the nature of these problems necessarily involves a two-fold approach.

Now in the case of behaviour, as such, it is possible for the physiologist or psychologist to study reflex action and conditioned reactions,

individual variations from the norm and pathological tendencies, by means of experiment, and to be relatively precise in the forecasting of certain sequences of cause and effect. But in the ultimate study of the individual, *i.e.*, as a member of society, it becomes increasingly difficult to do this. One can no longer explain in terms of individual behaviour, as such, for it is the relative behaviour of individuals in a group that conditions the norm and is the object of study. Artificial experiments may be and are prepared, and methods of observation employed, for the study of group behaviour. But since socially accepted norms of behaviour ultimately determine the habitual activities of individuals, we must turn to the study of meaning and value for the ultimate interpretation of symbolic behaviour.

Since culture as a network of symbolic systems is the result of the complex inter-action of individuals over a period of time and cannot be artificially reproduced, it is obvious that symbolic behaviour, which reflects these systems, cannot be ultimately understood in terms of temporal abstractions. We must study culture as we find it. This involves an analysis not only of present situations but of time-processes and of the formal patterns of symbolic behaviour which have emerged in the course of time as the result of social adjustment. The problem as to how far we are handicapped or aided by our physical heritage in the carrying out of our destiny is supplemented by the wider problem of how far we are the victims of our social maladjustments or the masters of our social heritage.

Ultimately, therefore, the study of symbolism involves the problem of human values in relation to human processes and *vice versa*. Anthropology, psychiatry, language, history, all contribute alike to the study of symbolic behaviour, and each study has to distinguish the problems of meaning and mechanism. That a study of symbolic processes is required is proved by the increasingly constant overlapping of interests in the various fields of social science. The transference of meaning-values, however, from one field of reference to another must be avoided lest the issue become confused.

The problem of the ultimate function of symbols in determining the mental and social development of the human race is not the subject of this discourse. It is the aim of the foregoing studies of the symbol in legend, religion, and dream merely to point to the necessity for clearly distinguishing between symbolism as a mental process and the symbol as such, instinct with personal and social values, and cohering in organized symbol-clusters. In conclusion, however, I wish to draw attention to the important facts which these studies have laid bare, that symbols always have been, and still are, the most valuable tool which man possesses in his pursuit of personal

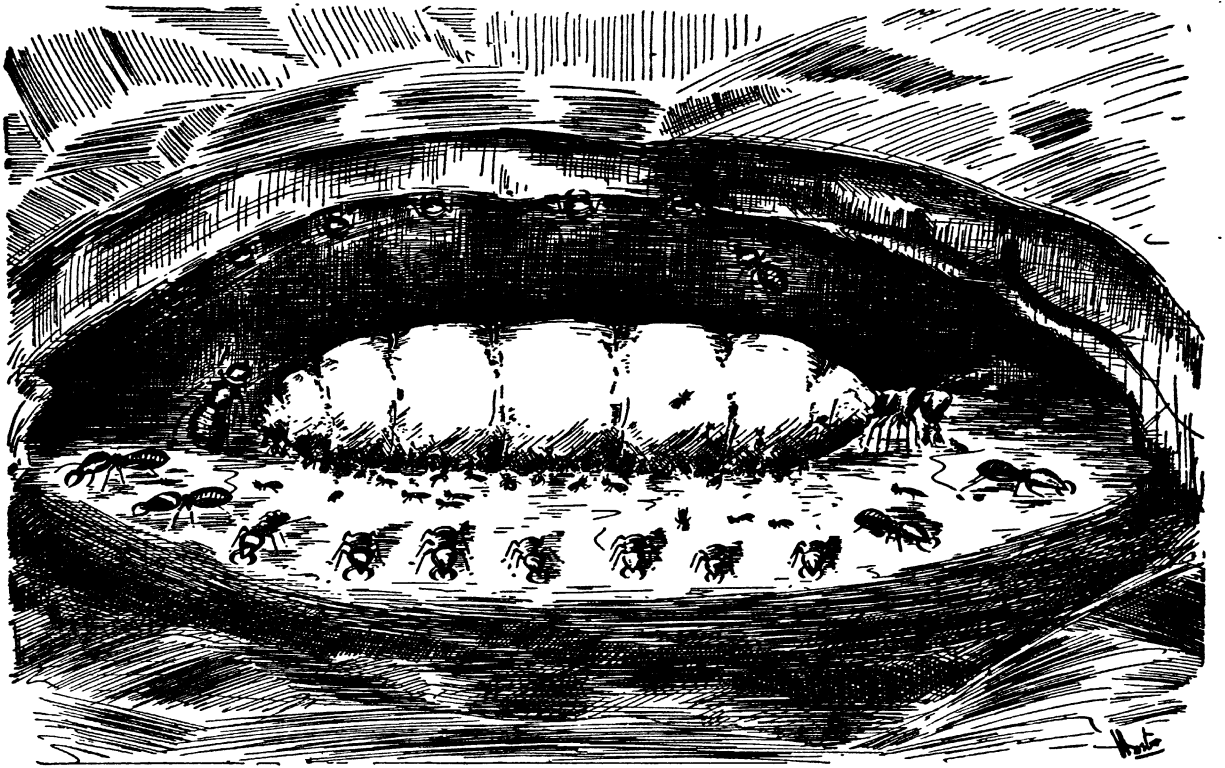
self-expression and social adaptation. Symbols, whether in the form of concrete objects, or of visual, auditory, and muscular images, are the depositories, as it were, of emotional, volitional, and non-volitional values; the lever by means of which man grapples with changing experiences and manipulates the products of experience in co-ordinated systems for the fulfilment of his needs, or becomes entangled in their meshes. The fact that we can neither think nor speak, can behave neither intelligently nor unwisely, nor can even dream, except in terms of symbols, proves that the study of symbolism, in all its complex situations, is essential to the understanding of some of the most simple problems of our every-day life. The sober consideration of this significant fact may make the foregoing study of symbolism appear less idle.

THE TERMITE QUEEN AS THE BRAIN OF AN ORGANISM

By EUGENE MARAIS

I recently had an opportunity—the like of which had never occurred before during my twelve years' experience in the study of white ants—to observe the queen inside her cell surrounded by the usual workers. All observers, I think, experience the observation of the queen under normal conditions as a supreme difficulty in the study of these singular insects. The termite has such an abhorrence of light that it is almost impossible to reach the royal cavity without disintegrating the entire community and putting an end to all normal behaviour. In 1930, the Municipality of Pretoria decided to clear a house of white ants after an infestation that had lasted several years. Repeated efforts had been made to get rid of them, always unsuccessfully. On this occasion, however, the floors of the three lower rooms were broken up and all the masonry of the insects was destroyed. It was found, however, every morning, after a clearance had taken place the previous day, that the termites had renewed a considerable part of their fortifications and were again hard at work. All efforts to find the queen had failed. I offered to the men in charge of the work to locate her if they would allow me two days within which to observe her, after the cavity had been reached. They consented to this. I had the ground in the dining-room cleared and swept and soon traced out three main arterial galleries. Taking the general direction of these three, I marked the point of intersection as the locality of the queen's cavity. This was situated underneath the fireplace. A little digging convinced us that this was the right spot. The artist, who assisted me, and I then took matters in hand. We made a gradual approach to the cavity; causing as little disturbance as possible under the circumstances.

The locality chosen for the residence of the queen was fortunately extremely dark and we had to employ an electric torch to assist us in our work. When we reached the outer walls of the cavity I softened the cement-work by drenching it repeatedly with a gentle spray of water. When it was quite moist we sliced away the outer wall with a sharp knife until the hollow itself was disclosed. By means of occasional flashes from the electric torch we located the queen's cell in the centre of the cavity. We could see that up to the



Queen Termite *in situ*

present we had occasioned very little disturbance. The work of the egg-carriers and feeders seemed to be proceeding normally. The opening of the queen's cell itself was a far more delicate operation and took several hours to accomplish, but even here we were successful eventually. We cut away more than half of the thick cell within which the queen was enclosed. After that we kept her under constant observation for more than two days. The watch had to be maintained night and day, since the termites, unlike all other living beings, never sleep ; never even rest for any appreciable time.[1]

We found the queen surrounded, first of all, by a circle of the larger class of soldier. These so-called ' body-guards ' stood in line with heads turned away from the queen and were separated by equal distances throughout the circle. One remarkable fact was that on the far side of the cell the line of ' body-guards ', instead of occupying the floor of the cell, clung upside down to the roof with their heads, in this instance, turned towards the queen. That is to say, the heads of the soldiers throughout the circle were all turned due north. I consider this to be of importance because I am more than ever convinced that the magnetism of the earth is unquestionably a directing influence in the behaviour of termites generally. The plane of the circle was turned to the surface of the earth at an angle of about forty-five degrees.

These so-called ' life-guards ' were generally absolutely motionless, but occasionally one of them would start swaying its head from side to side with its jaws widely distended. This movement was gradually imparted to the rest of the line until it had gone right round the circle ending with the soldier next to the one that originated it. The cell was always, in addition, crowded with the smaller class of worker. These were very tiny when compared with the big soldiers and the larger worker. It was very soon evident that the small workers were engaged in three different kinds of labour. The larger number were busy carrying off the eggs laid by the queen. The eggs were being produced at the rate of about fifty thousand per day. This number will give some idea of the dense throng of tiny workers that had to be ceaselessly engaged in this work. The smaller number were feeding the queen. We saw nothing but fluid ever pass to her. As the worker approached the jaws of the queen a tiny globule appeared at the apex of its rudimentary jaws. The little worker had to raise its body almost into

[1] I may say that the species of white ant was the common kind encountered in the gardens of Pretoria—the so-called Natal termite. In this species there are two classes of workers and two of soldiers, distinguished from each other chiefly by size. The soldiers, of course, differ from the workers—as in all other species of white-ant—so widely that no one without special knowledge would take them to belong to the same species of insect.

a vertical position in order to reach the queen's mouth. Each drop was immediately absorbed and the work proceeded with incredible speed. There was always a queue extending far beyond the aperture in the cell, almost an inch in breadth. As soon as a worker had passed its drop of moisture to the queen, it marched round her on the far side and circling her entire huge body, approached the exit from the side opposite to that by which it had entered. This meant that the food-carriers never obstructed each other and the work proceeded with machinelike smoothness. The same fact was also observed in the case of the egg-carriers.

There was a third labour undertaken by the small workers, the purpose of which was much more difficult to understand and gave us a lot of trouble. That was the activity of the so-called ' masseurs '. They climbed on to the body of the queen and appeared to be cleaning her skin. It has been assumed by other observers that this is in fact the sole purpose of their labour,—to keep the skin of the queen clear of exudation. I doubted this from the very beginning, and what we observed now confirmed a theory that had occurred to me more than ten years ago, before I had the opportunity of so closely observing the ' masseurs '. I noticed here that the ' masseurs ' who entered the cell were practically empty of any ventral content while those that left were filled to their utmost capacity with a colourless fluid. I had no longer any doubt, after I had examined a number under the microscope, that these ' masseurs ' filled themselves from the fluid inside the body of the queen. How they managed to get it through the tough integument without injury to the queen, I do not know. It will be seen later on that the ' king ', who was always present in the cell, could do the same thing,—that is, fill itself with fluid from the body of the queen through her skin.

We were now faced with the puzzling question : what did the ' masseurs ' do with this fluid which they collected from the queen ? We followed up one stream of them by carefully cutting away the termite-masonry guarding the galleries along which they travelled. Immediately below the royal cavity we found extensive fungus gardens. Here there were large numbers of etiolated termite babies of all classes. The theory which I had previously formed was confirmed by what we saw happening here. Each ' masseur ' as it entered the fungus garden came into contact with a number of eager babies, and she fed them in turn by passing globules of fluid from her jaws to theirs. This continued until she had literally been emptied.

It would seem therefore that besides her sexual and psychological functions the termite queen is also used as a store-room for the

food-supply of the baby termites. It is very likely that the food stored in her body reaches a further stage of digestion, and it is quite possible that this feeding is not confined to the babies only. As stated above, we actually saw the king filling himself from her body in the same way that the workers did.

I had often been puzzled by the enormous size attained by the termite queen when compared with the rest of the community. I could never divine the actual benefit of this excessive growth. Her egg-laying activity certainly requires a capacious body, but not more than a third of her bulk seems to be involved in the labour of egg-production.

The habits of termites and ants often resemble each other very closely, and the queen termite in this respect resembles the syrup-storing ants of Mexico. In this species of true ant one class is used for storing up the food-supply of the rest of the community. When the food-holders are filled to capacity they resemble both in size and appearance the termite queen.

Before dealing with the most mysterious of all the termite functions which we observed in the queen's cell, namely, that of the so-called ' body-guard ', there are a few general peculiarities that I wish to deal with.

Our common mentality enables us to recognize the more ordinary psychological manifestations in lower organisms. We can recognize clearly the expression of joy or happiness in all living things. The exultation which accompanies the excitation of the sexual sense ; fear and rage, love and hate, in fact all the ' basic ' mental states are identical in man and in all living things below him in the scale of evolution. There is nothing more difficult to realize in connection with termites than the utter absence of what one has come to accept as elemental psychological constituents throughout the organic world. The first two termites emerge as perfect insects and apparently experience happiness or joy in being able to fly. But this condition lasts for a few minutes only. It may last for seconds only. They deprive themselves voluntarily of their wings and as speedily as possible re-bury themselves in the darkness of sub-terranean passages from which they never again emerge. If the white ant can experience no pleasure it is at the same time incapable of feeling pain. If one touches the true ant or any of the higher insects with a drop of corrosive acid, one sees at once the contortions of supreme agony differing in no particular from the behaviour of, say, a wounded lion. Most classes of termites show no reaction whatever even to so powerful a stimulus. The urge to self-defence or self-preservation in the individual is also entirely absent. The soldiers of *Eutermes* will occupy a post of danger where numbers are

repeatedly, killed without the slightest sign of fear or any attempt to save themselves by flight. I have seen one instance where a stream of water was turned into a nest. Thousands of workers hurried to the danger spot and tried unavailingly to stop the inrush by building a retaining wall. Hundreds of them were swept away repeatedly, but they continued this useless effort until the nest had practically been depleted of workers. In a battle of true ants against termites the same behavour can be observed. Soldiers occupy all the entrances to the threatened nest and allow themselves to be dragged out and slaughtered by the invading ants without ever making an attempt to escape. This also continues until there are no more soldiers to occupy the posts of danger. Above all, the great incentive and apparently greater reward afforded by the operation of the sexual sense in nature is absolutely wanting in the case of the white ant. In fact there is no answer to the question, to what purpose? Why do they labour thus unendingly? What mighty incentive is there that compels them to perish in thousands in a cause from which the individual derives no benefit? One might assume that there is something in their mental get-up resembling the loyalty of human beings to a sovereign; but that is an assumption that cannot stand. It is only a very small section of the community that ever comes into contact with the queen. The great mass of soldiers and workers not only never come into contact with her, but are generally separated from her by several yards of earth and rock. From birth to death they can never know of her existence through individual experience. If there is any sense of loyalty in the termite, it must therefore be directed to a being absolutely unknown to them.

Truly their existence is a veritable death in life; without visible incentive or intelligible reward. Excluding the micro-organisms, of whose behaviour we know practically nothing, one would seek in vain throughout nature for similar conditions of life. The nearest analogous instance is the case of separate organs within an organism. There is nothing that the white workers and the red soldiers of the termite resemble so closely as the red and white corpuscles in the mammalian blood stream. These, regarded as separate organisms, carry out identical functions in very much the same way. The corpuscles in the blood engage in highly complex purposive work directed in some mysterious way by the brain. So, too, the functions of termite soldier and worker are dependent entirely on the undisturbed presence of the queen. The moment she is destroyed all activity ceases even in the outskirts of the nest, separated perhaps by as much as a hundred feet of earth and rock from the central cavity where the queen is kept, very much like the mammalian

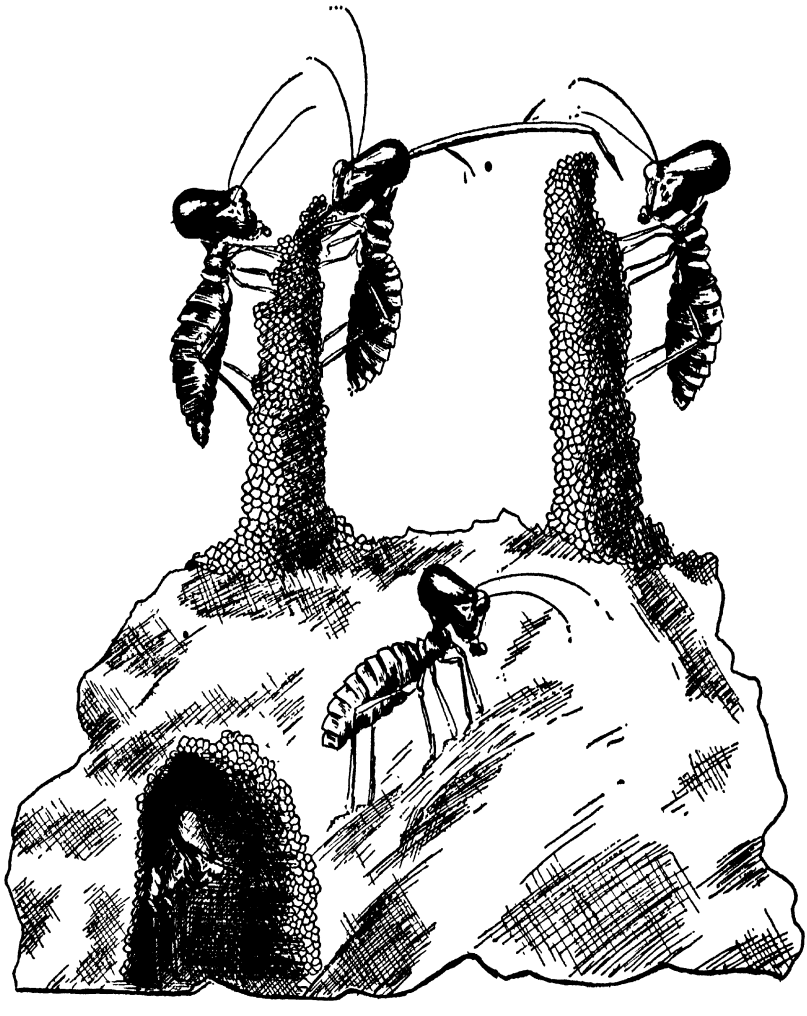
brain inside its thick bony protection. There are many other types of behaviour in the termite that can be explained only on the assumption that the entire community is a separate and self-contained organism working in all respects in the same way as the bodies of the higher mammals. In such an organism the queen is clearly the brain; the so-called fungus gardens are the digestive organs, where enzymes are secreted identical with those that digest the food in the mammalian digestive tract; while workers and soldiers represent the blood stream circulating endlessly through the arteries of the nest and carrying out similar functions—conveying food to the digestive centres providing sustenance for growing and living parts and repairing injuries. The mode of operation of the sexual sense in the termite community remains an inexplicable enigma until the observer comes to regard the community not as a congeries of individuals, but as a separate organism. Actual sexual excitement such as one encounters in all other organisms, takes place only during the flight of the two sexual classes. When this flight occurs the entire community is thrown into a violent state of excitement. Rage, which is a common accompaniment of the sexual sense in nature, is then also apparent,—and then only. Both soldiers and workers crowd around the entrance and attack anything that shows a sign of movement with bulldog-like tenacity. This is the only occasion that they appear in daylight in the open air. The flight of the two sexual individuals is not a 'nuptial flight' (as it is so often described to be) in any sense of the word. In fact, it is a very matter-of-fact affair from beginning to end. No contact between the sexes takes place while they still possess their wings, and not even after they have deprived themselves of their wings. It is only after they have re-buried themselves in the earth that this contact occurs. It is then a matter of a few seconds without any sign of the excitement that is common to all other creatures. This actual sexual contact is, in fact, the final incident in a series of occurrences the crisis of which was a manifestation of the community. After this brief contact, sexual behaviour never again occurs and the queen is fertilized for life. It must also be remembered that the male and female insects may be present in a nest for as long as two years after they have developed into perfect insects, wings and all, before a flight takes place. They are in perpetual contact with each other, but there is never the slightest indication of sexual behaviour as far as they, as individuals, are concerned until all these different steps have been completed. They must emerge into the open air; they must actually fly, if even for a few seconds only; the queen must send her mysterious 'wireless' signal into the air; they must deprive themselves of their wings and re-bury themselves in the earth,

and it is only then that sexual behaviour, as far as these two individuals are concerned, occurs. If they are prevented from carrying out any one of these operations ;—if, for instance, they are prevented from flying and forcibly deprived of their wings, they will perish although in contact with each other without making any attempt to complete the series of events.

Although fear is never discernible in an individual, it is certainly an attribute of the community as a whole. In many species a very violent attack on the nest from without will cause a terror-stricken retreat of both workers and soldiers to the depths of their underground fortifications. So rage, also, is an attribute of the community and not of the individual. If the attack on the outworks is slight the entire community may be thrown into a state of violent rage that is quite clearly discernible in the behaviour of the masses of both workers and soldiers.

It will thus be seen that all critical mental states, such as fear, the incentive to self-protection, anger and the excitation of the sexual sense, which we recognize as mental attributes of the individual in the case of all higher animals and insects, is in the case of the white ant, entirely absent in the individual and is manifested only by the community as a whole.

This analogy between the life-history of a termite community and the different bodily functions of any of the higher animals can be observed in many other directions. The most mysterious of her functions—" the influencing at a distance " of all classes of her ' subjects ' by the queen, seems identical with some of the functions of the brain in higher animals. I established by many carefully devised experiments that all the communal work of the white ant is dependent upon the undisturbed presence of the queen in her cell. If the outer skin of a termite hill is partially destroyed the workers repair the injury by working from different sides. There is a continual stream coming up through the arteries of the hill from below. Each one of these blind individuals hurries to the edge of the ' wound ' carrying in its jaws a microscopic pebble. This it covers with a sticky mucilage by rolling it around between its jaws. The pebble is hurriedly placed in position and the worker returns to make room for the following one. There seems to be no deliberation and there is certainly no perceptible communication between the workers on one side of the ' injury ' and those on the other side. In the case of some species it is possible to divide the ' injury ' into two parts by driving a steel plate through the centre, so as to ensure a complete separation of the workers. Now, termites engage in many different kinds of building-work to repair an ' injury ' of this nature. They construct arcs of different widths and sometimes



Eutermes workers building an arch by means of a cross-beam

they repair an ' injury ' by constructing high turrets of different shapes. But whatever building-work they do engage in, it seems quite certain that the design is pre-determined. The blind workers on both sides of the steel plate, deprived of all contact or communication, work out an identical design, and when the repairing masonry reaches the plate, whether it be an arch or a turret, the walls join up as if no plate separated them.

Where is this pre-conceived design formed, and from whence are the workers directed in its execution? It is quite certain that the continuance of the communal work is dependent upon the presence of the living queen in her cell, and it seems, therefore, fairly certain that both the design and its execution emanate from her.

In the human body repairs are carried out by the blood corpuscles in an identical manner. Even more strikingly similar is the work of the microscopic organisms which weave and build up bone. Here, too, there is a preconceived design, and both the design and the direction of its execution emanate from the brain, but there is no organic connection between the brain and these labouring organisms. The influence, whatever its nature may be, is " influence at a distance ".

To return now to the functions of the queen's ' body-guard '; I have noticed that it is a common thing for observers to attribute functions to an organism suggested by a name, even where the name is clearly a misnomer. The ' life-guards ' of the queen were so called because they resemble the guards which protect a human sovereign inside her palace. It was at once assumed that they were there to protect the queen from any hostile invasion. I have for many years doubted whether this was the actual function of the so-called ' life-guards '. For one thing, the queen is invariably placed in the deepest and best protected part of the nest. Before any enemy can reach her it will have to traverse perhaps miles of intricate arteries, and in every inch of these arteries it will encounter soldiers who will attack such an invader *à outrance* and, if it is small enough to travel through this system of arteries, it will have to fight a thousand battles for its very life before it can reach the queen. Should the invading enemy reach the royal cavity, the battle is already won. If it has been triumphant thus far, no defence that a single line of soldiers round the queen could put up would save her from destruction. This consideration alone convinced me that we still have to search for the true functions of the line of ' life-guards ' in the royal cavity. In the present instance we found that it was quite impossible to conduce a concerted attack by the ' life-guards ' on one's finger, however much one pushed them about and disarranged their line. It was, in fact, very difficult to induce an individual among them to make

use of its powerful jaws even where one's finger was thrust right up against them. On the outskirts of the nest contact with one's finger immediately occasioned a concerted attack by all the soldiers in the neighbourhood, and everyone of this especial species was able to inflict a painful wound with its powerful hooked jaws. During the time that we were observing the queen in her cell an accidental occurence revealed to us a very interesting and very remarkable fact in connection with the line of 'life-guards'. While we were actually watching her—practically night and day—the termite work in the other rooms of the house continued undisturbed. If a piece of masonry was destroyed during the day by the men engaged, it was renewed during the night, and we invariably found the insects the following morning hard at work. In fact, no destruction of masonry ever occasioned a real cessation of the work of the community. On one occasion, however, a small piece of hardened earth fell from the roof of the queen's cell, the point of which dealt her a fairly hard blow about the middle of the body. The rest of the earth fell on a portion of the line of 'life-guards', destroying three or four of them and throwing the whole line into a state of disorder and extreme excitement. The only sign of shock, as far as the queen was concerned, was a rhythmic and unceasing movement of her head sideways. Within five minutes after the occurrence, there was a remarkable series of events. Most of the 'life-guards' disappeared in the uninjured galleries behind the queen's cell, while a few remained in the cell wandering about aimlessly but making no effort to restore their line. In the meantime, a dense swarm of workers entered the cell, apparently crowding up from different parts of the nest. They climbed on to the body of the queen, seemed to press their heads down into her soft skin, and in the manner already indicated, filled themselves with the fluid contained in her body. Within a few minutes they had removed so much of the fluid that her skin began to form flabby folds. Within half-an-hour after the piece of earth had fallen we carefully examined the outskirts of the nest in the adjoining rooms of the house. All work had ceased, and when we broke away the masonry we encountered everywhere the rear-guards of the retreating armies, apparently fleeing to the depths of the earth. All work was discontinued everywhere. When we returned to the queen we found that she appeared to be recovering from the shock. The movement of her head ceased, and with it the workers that had attacked her began to leave the cell. Very shortly afterwards the normal stream of feeders made their appearance, and it appeared to us that supreme efforts were being made to replace as quickly as possible the fluid that had been removed from the queen. This did not take very

long. Within an hour at the outside normal behaviour had been restored. The egg-carriers were again at work and the ' masseurs ' once more appeared on the queen's body, but the ' life-guards ' had not re-appeared. A few of them were still wandering about amongst the tiny workers inside the cell; and then we discovered this remarkable fact, that, as long as the line of ' life-guards ' had not been restored, the cessation of building-work throughout the nest continued. It was only some hours after the occurrence that the ' life-guards ' re-appeared and re-formed their singular circle round the queen. As soon as this was accomplished work re-started throughout the nest. I infer from this that the true functions of the line of ' life-guards ' are related to the mysterious power which the queen ' broadcasts ' and which determines the behaviour of every worker and every soldier in the community. I am inclined to think that the angle which the plane of the circle makes with the surface of the earth is also connected with the exercise of the psychological functions of the queen. The fact that their heads point due north along the line of the earth's magnetic plane may also be of some significance. In Australia there is a species of termite known as the Magnetic White Ant which build all their anthills with the longer axis pointing north and south. In the Northern Transvaal we have a termite which is similarly influenced by the magnetic force of the earth. I have also found in the digging of their deep boreholes for the supply of water which they need, a borehole makes many bends East and West, but there is no bend North or South. Thus an entire borehole was exposed on the northern vertical wall of a mine shaft sixty-five feet deep.

When the observer has come to regard many of the functions exhibited by different parts of the termite community as identical with those found in the mammalian body, then there is the equivalent of one organ which he would expect to find; that is the important connecting link between the brain and the outlying organs which it controls. I have always sought in the termite community for some functional equivalent of the spinal cord in the vertebrates. I am inclined to think that the circle of ' life-guards ' is the answer to that quest.

Destruction of the queen invariably takes place where the nest has been so gravely injured that repair seems impossible, even if the queen herself is uninjured. To this, at first sight, there does not seem to be anything analogous in higher organisms. It seems to me, however, to be identical with what takes place where the body had been gravely injured without involving any vital organ. Even where no hemorrhage takes place, the brain, by some kind of nervous reflex, is gradually deprived of life. It becomes bleached and the

whole organism dies. In such cases the injured individual is said to have died of 'shock'. It seems as if some force in the body, instead of striving to keep the brain alive, decides upon its immediate destruction.

There is another puzzling aspect of termite life, which to my mind can only be explained on the assumption of organic and psychological unity, or rather, it is only on accepting this assumption that other instances resembling this aspect are found in nature.

If one examines the perfect winged insects, the King and Queen of *Eutermes* (for instance), it is difficult to believe that those weird monstrosities, the *Eutermes* soldiers and workers, are descended from them. The law that "like produces like" is so universal and inflexible, that these two blind sexless individuals, differing as widely from each other and from their parents as two different species of animal that are poles apart can possibly differ, has, within my experience, no parallel in nature. There are polymorphic organisms where a species descends through an intermediate variation. But that is not the case with *Eutermes*. These soldiers and workers have never reproduced their kind. In the direct line of descent there has never been any insect remotely resembling the soldier and worker.

Even more remarkable to my mind is the fact that these two winged insects with perfectly developed sexual organs and eyes, transmit to the blind and sexless soldier and worker instincts and functions which they themselves never possessed. The king and queen never build; they know nothing of defending themselves by means of an entangling fluid squirted on to an enemy. From where then do soldiers and workers derive their complex and unvarying instincts and the functions which accompany them? I have said I do not know of any parallel instance in nature in the case of separate and individual organisms. But I think every observer must be struck by the resemblance that exists between the whole reproductive process in *Eutermes* (for instance), and what takes place in the bodies of higher mammals. The sexual flight is in every respect analagous to the escape of spermatazoa and ova and the conjunction of a single pair out of the multitudes that are discharged for this purpose. From this single pair—male and female—the communal body is built up, cell by cell. From them originate organs as diverse in form and function as the different termite classes. The separate organs in the animal body, including the more minute organisms, are all engaged in independent purposive labour—'instinctive' functions—which certainly never appear in the direct line of descent of the spermatazoon and ovum. It would appear, therefore, that these two sexual entities are able to transmit somatic and psychological functions, which never appear in their own life

history, to independent organisms. In the case of the originating spermatazoa and ovum, the transmission of these various functions is less puzzling when we come to regard the two organisms as inseparable parts of the body and not as independent entities. It seems almost like an explanation to say " all the functions of the different parts of the animal body are transmitted through the spermatazoon and ovum, which are parts of the body ". In the same way we could say : " The somatic and psychological functions of all the different classes of termite are transmitted through the single sexual pair, which are part and parcel of the entire communal body ".

In the ultimate analysis, however, both instances still remain fundamental exceptions to that universal law of organic life : that no organism can transmit to progeny forms, functions, and ' instincts ', which it does not itself possess.

It is, therefore, as an outstanding exception to this fundamental law of life that the transmission of forms and functions through the two sexual termites resembles the transmission of various organic forms and functions through the single pair of spermatazoon and ovum.

While we kept the queen under observation the workmen removed a great quantity of ' building-work ' and ' fungus-garden ' stuff. There must have been several tons of this material present in the different rooms of the house when the floors were first lifted. Experience had, however, taught the workmen that removal of masonry and gardens—however thoroughly it might be carried out—was never quite effective. The most that it did was to retard the destructive activities of the termites for an indefinite period. If the queen were not discovered and removed, the woodwork within the house was again attacked within a period proportionate to the amount of destruction carried out.

On the third day our queen was removed, and after this the activities and the life of this nest ceased for good.

IS ACQUISITIVENESS AN INSTINCT?

By IAN D. SUTTIE, M.D.

If so, the struggle against it will never end, and will probably be unsuccessful. Compromise will then be necessary, i.e. Capitalism or some modification thereof.

Unquestionably, the sentiment of ownership is strong, even in Russia to-day, and forms the main difficulty to any attempt at economic co-operation among the peasants. It is, of course, to the advantage of those who enjoy wide possessions to maintain that this sentiment is ineradicable and irresistible—just as gamblers refer to a gambling or sporting 'instinct', soldiers to a combative 'instinct' etc. The implication of such arguments is that gambling must not be interfered with, that the army must be increased and the pay and status of the officer raised, since war is inevitable!

As theorists, however, we do not take these conclusions for granted and we must enquire whether possessiveness is quite so primordial and elementary as interested parties, brought up in a capitalist culture, unreflectively assert it to be.

I have tried to show that, while acquisitive behaviour is held to be the very expression of reason, common sense, and soundness of mind, it is in no way exempt from psychopathic aberrations—as shown by its inconsistency and blindness to its own ultimate objectives—its tendency to take what is merely a means to an end as an end-in-itself.

I have suggested that the pursuit of gain without regard to its biological utility represents a maladaptation to social living, an attempt to hold the regard and consideration of others by an economic control exerted over them rather than by the natural affection of fellowship.

The infant's craving for the mother's attention is its self-preservative instinct, and its necessary severance from the mother sets up the need for substitute associations,—i.e. fellowship. Under certain conditions the child forms the impression that this fellowship is to be obtained by *giving* food (parental function) and therefore by having food to give. As with food, so with toys, etc. Thus, being wealthy, important and loved have a certain unconscious equivalence. (Note the Freudian theory of money). Possessions come to mean the power of commanding the attention, regard, etc., of other people,—the best available substitutes for the lost protective

affection of the parents. Thus, for a child, *ownership* sometimes appears a most important attribute of parenthood, i.e. the power to withold ; whereas we know that biologically it is in giving—not in retaining the power to give—that parenthood consists.

The common-sense interpretation of the origin of the acquisitive impulse (if it is granted that it is not instinctive) is that the child—finding by degrees that the parents cannot provide always and sufficiently for him, seeks to win security and satisfaction *for himself* by the acquisition of economic power over others. The modification here suggested is that the self-preservative instinct (in all animals having a nurtured infancy) demands more than the satisfaction of material needs. Security and comfort are not attained unless the attentions of others are assured. These attentions which vary endlessly—are all substitutes for the parental attention to which we were once accustomed and which we can never wholly renounce without loss of our whole social and moral nature.

The quest for possession, pursued beyond all need or capacity to enjoy, is thus explained—not as a rational greed—but as a distorted neurotic quest for love strictly homologous with all other mental diseases.

Several pathological impulses have escaped detection and condemnation and have woven themselves into the fabric of our civilization, (1) The above-mentioned desire for economic control of one's fellows, beyond the point at which their personal services are truly needed. (2) The father's claim to the ownership and control of the whole family. (3) Sexual jealousy in certain expressions, and (4) The need to reduce others to a common subservience to the objects of our worship.

The desire for gain is one of the background forces of the human mind that psychologists tend to take for granted. It seems so simple, so general, and feels so natural and inevitable that we almost regard it as an elementary and original part of the mind. We all tend to overlook whatever is familiar, or at least to feel that we understand it perfectly. As, then, our civilization is so largely built upon the Institution of Property we feel it somewhat quibbling or pedantic to enquire into the psychology of so reasonable and obviously necessary an impulse. Indeed we tacitly accept acquisitive behaviour as our *standard of rationality*. Thus a lawyer can hardly be convinced that theft can ever be psychopathic. " He stole the money ; he's as sane as you or I " was the indignant remark of prosecutor, in the case of a boy who had stolen *in order to be imprisoned and make his parents sorry for him*. That a man is able to earn his living, too, is often held to be the highest proof of his sanity. Business-like methods and Business Men are held to be

obviously and naturally free from all the confusions and incompetence of politicians. Along with fear of consequences, the desire for gain seems then to be held to be the basis of rational conduct. To many, it seems quite natural to be *bad* about money, to acquire it in unpermitted ways :—but they find it difficult to believe that any one can be *mad* about it, except perhaps in *not* struggling to gain and retain it.

Like *fear*, however, the desire for possession is admittedly capable of aberrations. The miser, the collecting-maniac, the kleptomaniac, etc., are all recognized as being abnormal. But the man who wastes his whole life for money, and, having made more than he and his descendants can ever spend, risks all, risks ruin and dishonour, to beggar his neighbour, sweat his workmen, cheat his customers, etc., in order to get still more, such a man obviously is actuated by other motives than the desire for security and enjoyment, i.e., by non-rational motives.

If the economic motive were the main-spring of reason, surely the economic system would be rationally conducted and by general agreement. Surely men should be able to understand and control a mechanism they themselves have created. Yet no applied science is the source of more radical and violent differences of opinion than is economics. One school of opinion has assumed that economic processes are altogether beyond man's control, and, consequently, it advocates a 'hands-off policy' on the part of Governments. The greatest psychological interest attaches to some economic theories which are beginning to gain expression in the 'higher class' press. These views may be summarized thus :—

"AN ECONOMIC PROPOSITION"

1. Unbalanced trade always leads to disaster.
2. A so-called '*favourable* trade balance' for one party, A, necessarily involves an '*unfavourable*' balance for another, B., and this process, if continued, finally deprives the latter of purchasing power, i.e., it destroys a market for A himself.
3. This process, however, tends to come to a standstill when the increased credit (wealth) of A leads him to purchase more goods from B. than he sells to him. A. would then have the unfavourable balance until the balance is redressed. Thus a nation B. with an unfavourable balance will either have to export gold or paper money (i.e. promises to pay of some kind) to make up the deficit, and when it 'goes off gold' the foreign purchasing power of its money falls, since it has now *no* fixed value in terms of *any* commodity. This makes

foreign goods more expensive to B., and B's goods cheaper to other countries; and a favourable trade balance would result if not prevented by tariffs, etc.

4. The ideal of a favourable trade balance means that whoever attains it is laying his customers year by year under undischarged obligations. In other words he is refusing to allow them to pay their debts to him; deferring liquidation and extending credit till the solvency of the debtor country is manifestly in doubt. *Then* trade must cease or the debtor must re-establish solvency [economic equilibrium] by a succession of 'trade balances' favourable to himself and against creditor who is now living on capital.

5. This refusal to take a full and immediate settlement for services rendered is the principle of *Saving*, as opposed to Proletarianism. Its rational basis is the need, during active life to provide for the needs of old age or periods of scarcity. We speak of 'laying by'; but of course we do not lay by stores of commodities as one might lay by winter fuel. The process consists essentially in establishing a just claim upon others to render future services. Primitively this is managed by the rearing of children who, in turn, provide for their parents. Thus the sentiment of property has a firm footing within the family. In our complex capitalist system it is possible to establish claims not only on children, but upon any industry we choose, or upon Government, by *lending* (unspent) money.

6. The social function of 'saving' is the development of new industries up to the point where they begin to yield wealth and become self-supporting. This is the "*raison d'être*" of Capital and its protagonists point out that if every producer consumed the whole return of his labour—i.e. was a proletarian, the expansion of industry would be impossible. Indefinite expansion of industry is impossible. Already productivity has far outrun purchasing power.

7. The Proletarian argument is contained in the first four sections above. Real saving cannot take the form of accumulation of commodities and must therefore mean a lien upon the capacity to produce them. Surplus goods mean glut, slump and unemployment, unless they can find a market, i.e., consumer. The increasing productive efficiency of industry throws ever more goods on a contracting market, so that unemployment must increase in geometrical progression. In regard to International Trading, this argument seems to be true in fact as well as sound in logic.

Thus it is argued that, as between nations, the piling up of one-sided credits, i.e. favourable trade balance, must extinguish the market; only a balanced trade can continue indefinitely. But the 'Proletarian' School goes farther and holds that the same law applies as between individuals and firms and trades. They teach—that the systematic piling up of undischarged obligations to be met on demand must ultimately disorganize the economic system. If A. continues to refuse to buy from B. (goods or services) as much as he sells to him (i.e., piles up a credit balance) B.'s obligations must in time amount to more than he can discharge. He is then bankrupt, A breaks up or takes his business and *seeks* a *new market* for his own goods. But new markets are obviously limited, so we cannot afford to destroy any. Customers are as necessary as salesmen; demand as supply. The impoverishment of the Working Classes destroys the home market, particularly for staple commodities.

Thus argues the Proletarian Economist and alleges that the law thus diagrammatically stated holds good no matter how complex the economic system (i.e., introduction of C—Z as parties in the system).

Orthodox Economists point out that Credit is a necessity of Civilization; the humblest wage earner gives credit to his employer and gets it from his landlord at least to the end of the week. Credit must be created as fast as it is liquidated. They point out that 'confidence' is a factor in credit which is therefore contracted by any attack upon the security of ownership (capital). Further, the incentive to work is reduced thereby. Yet the Proletarian can now retort that Capitalist Authorities (Banks, Financial Houses, etc.,) have deliberately pursued a policy of credit restriction, deflation, which has caused a panic, 'liquidation' and a *general flight of capital from Industry*, represented by profit-sharing securities, to fixed-interest bearing stock. Money has deserted industry, seeking safety in Government promises, though obviously if Industry failed, Government would have no income with which to fulfil its promises. Thus it is economically impossible that such 'equity' shares as Coat's and Lever's should have so low a real capital value as to yield more than double the interest obtainable from Government Securities. Government income is *dependent* upon Companies like these; the latter are therefore the primary sources of wealth. If they fail, all securities fail. In a boom (inflation period) with rising commodity prices on the other hand, they would yield still higher profits, while the real value of Government's fixed payments would fall. Thus even the valuation of securities, so important, so deliberate, by men so intelligent, keenly interested, well-informed and well-trained, displays unaccountable inconsistencies.

It is thus clear that property owners, though *politically united* against all attacks upon Capital are economically divided into two largely conflicting 'interests',—Industry and Finance. The latter, Finance, as an independent 'interest' and power, has grown enormously with the amalgamation of small businesses and the conversion of their former owners from responsible working managers of small owned companies into share-holders of insignificant interests in a number of monster combines.

The social and psychological importance of this change cannot be over-estimated; but its economic effect has been to transfer control from the practical man and responsible owner to the financier and book-keeper.

An intensification of the drive for profits results, expressed in three rules of policy.

1. Reduce Costs (principally wages).
2. Increase Production.
3. Raise Prices.

This policy, *when universally enforced*, inevitably produces a slump, for the wages-bill of the whole country is of course a principal factor in the 'home-market'. Then when the market is thus contracted, and an actually increased volume of goods is thrown on it, naturally the higher prices hoped for do not materialize. On the contrary, there is a landslide such as that observed in the last two years. The inefficient producers are destroyed or bought out, thus increasing unemployment, and farther reducing demand; wages are farther reduced, and so on in a vicious circle of contracting trade. The superficial thinker, with facile optimism, talks of trade cycles without troubling to enquire into their mechanics, and whether indeed the helix with its concentric (narrowing) tendency is not a truer analogy than the circle to the present slump.

I repeat that the extreme ignorance of economics in high quarters is a very significant fact when we consider that the economic system is made by and for man, and should not therefore prove unintelligible to him. We find, for example, at the beginning of the War, the Bankers declaring that Germany could not carry on for six weeks from lack of money—as if this were a necessary and exhaustible commodity. The same people advised our rulers at the end of the War that Germany could pay £50,000,000,000, although Angell had clearly demonstrated before it began that large one-sided movements of commodities were ruinous to the recipient. Again the Financial Papers were in a panic when the pound was threatened, yet instantly became jubilant when it went 'off gold'. Did this inconsistency affect their circulation? We even tried to balance the increasing Trading Debt to America by borrowing money from

her,—like the young officer who wrote his banker a cheque in settlement of his overdraft. The same Newspapers urge us not to economize but to spend wisely and at the same time command government to cut health and education grants by 20%. One summer we borrow abroad £150,000,000 to keep up the pound, next spring we borrow at home another £150,000,000 to keep it down. And all without any apparent sense of mental discomfort at the inconsistencies involved!

All this confusion of policy surely indicates that there is some factor other than common-sense and clear thinking at work in the economic mechanism. As I mentioned above, the desire for gain is tacitly accepted as *the* rational and respectable motive in spite of certain manifest abnormalities to which it is subject. Appearances *do not* support this view. Having established a '*prima facie*' case for the existence of economic insanities, we have now to consider the psychological basis of the desire for possession to see whether it is quite so primal and elemental as it is reputed to be.

Even in animals some rudimentary sense of possession can be traced. This, however, is always associated with actual occupancy or use of the territory or object possessed. It is also of course not sanctioned by a social sense of right, but by strength or stealth. The hunting animal defends its range or its house and so with food, or mates.

Possession here always serves one or the other of the vital instincts; it is a means to a pre-existent vital end, the satisfaction of an appetite—in no way an end-in-itself. We could not, for example, speak of an instinct or appetite for *possession* in animals, since they do not usually pursue gain for its own sake. As mentioned above, where animals jealously monopolize food or territory, their behaviour is obviously motivated by some biological need; possessiveness in animals is strictly utilitarian.

An entirely different *kind* of motive can be discerned in the sentiment of ownership of *the social animal*,—man. Up to a point, like animals, he desires things for their actual use to him—their instinct-gratification value. Beyond that point, however, another factor participates; possessions come to be valued *on account of their value to others*; ownership becomes a means of commanding the *regard and service of other people*, i.e. subservient to the associative craving. It is this complication of the desire for possession that renders morbid and excessive developments of the desire possible. Yet it is its association with *social life*, its social aspect, and its obvious relation to the satisfaction of vital needs, that force us tacitly to accept acquisitive behaviour almost as a criterion of rationality. The conception of sanity is almost entirely a *social*

one. A man is normal who behaves to others (and to common interests) as others behave to him. Regard (in its very widest sense) for others and desire for their regard is the dominant motive of social life ; and sanity is therefore almost synonymous with social fitness. The desire for possessions as a means of holding or improving one's social status is therefore one that very easily escapes the psychopathologist's notice or criticism. Yet unquestionably this desire varies enormously as between individuals and even between cultures. It is the source of most crime and war, of most social discord and distrust. No moralist, teacher or lawgiver has ever devised a social *modus vivendi* in regard to property that is practicable, stable, satisfying and not repressive. All systems embody tendencies which ultimately are socially disruptive. Moses' Law of Jubilee is a virtual admission on his part that no economic system he could devise could run smoothly for more than fifty years. As I have pointed out above, our own economic system is unintelligible and uncontrollable by its own authors and directors. Surely we have here in these inconsistencies all the evidence of a psychopathic process, requiring psychological investigation.

I shall be told that economics is the business of the politician, that it is a law of nature, not of mind, etc. But I suggest that it is at least possible to enquire how, and how far, the desire for possession becomes divorced from the desire to satisfy the various actual needs, and so is converted into a desire for a power to control the acts and feelings of one's fellows. It may even prove possible to trace the instinctual origins of the attachment of man to his fellows and the influence of the different factors in, and types of, upbringing in developing the *social sense of property*.

The change in the purpose of ownership, from that of actual utilisation or enjoyment of property, to that of influencing others seems to take place very early in life. In the only case that I have been able to observe really closely, it had certainly occurred by the fifth year of life. I was here able to perform an experiment to discover how far the child was conscious of this social extension of its own acquisitive interest. I lent it a large amount of ' meccano ', explaining that it could use this as much as it liked, and that I would not take it back while it was in use. The child was obviously pleased to be able to construct much more complex and imposing things ; but (to my observation) not so pleased with the guaranteed and unrestricted use as he would have been with actual possession. This became quite clear when, a short time later, I gave him half *the same* material ' as his very own '. The novelty of use had somewhat worn off and the meccano was actually lying in a cupboard all built up. In the enthusiasm of actual ownership, *as distinct from*

the right to use, he immediately unbuilt, in order to divide it, though unbuilding was a trouble he normally shirked. He shewed in fact all the pleasure he usually displayed on receiving a valued and unexpected present.

When, however, I presented him with the other half of the meccano so that he now had not only the *use* but the *possession* of all, his satisfaction was accompanied by a little uncertainty. Although he was pleased and very friendly, it was obvious that he felt that his gain had been to some extent unreal. I drew him on to talk about presents and property, and asked him what was the good of having it for his very own when he already had it to use and knew that it would never be taken away from him. He puzzled this out with the insight children have by nature and finally said, " It is so that I can lend it or not, but *they must ask me anyhow* ".

The associative desire is responsible for extending acquisitiveness indefinitely beyond the point at which all needs, including security, are met. Associative need (as distinct from appetite) is the *infantile* form of the instinct of self-preservation. It attains the end of survival in the only possible way by attaching the infant *passionately* to the mother. The rudiments from which all adult instincts differentiate are embodied in this attachment. Conscious want is first felt when the child is aware of a diminution in its mother's attention to itself. This is the critical point for character formation, interest development and mental health. Here mind meets its first rebuff, makes its first adaptation to reality, and takes its first " bent ". The development of interest in *things* is at first a function of association with *persons* and entirely dependent upon the subject's relationship to other *people* and upon *their* interests. The whole subsequent development of mind proceeds from this origin, not by the introduction of new factors but by a gradual and continuous substitution of new for earlier personal attachments and a corresponding development of interest. The original a-specific instinctual attachment to the mother is the root from which the tree of human interest and love-life springs. In a sense, then, the whole of life comes to fill the void the mother once filled. The perpetual drive to new achievement, the cultural development of interest, religion, etc., represents a quest for the lost mother or rather for a completely satisfactory substitute.

Hence the associative need appears to be an undifferentiated vestige of the primal mother-attachment which represents in the infant the adult instinct of self-preservation. Hence also the extreme values attached to goodness, greatness and *wealth*: since these are all means whereby we maintain the attachment of others to ourselves, an attachment which unconsciously is equivalent

to life itself. From this point of view we find many apparent contradictions resolve themselves. Thus people will kill for goodness' sake. We kill for safety; we hate for safety; we steal for safety, and it is the security of the regard of others we are seeking all the time. We are jealous of others' success, unconsciously imagining they are winning the regard, esteem, love, etc., that we desire for ourselves.

Above all we tend to defend or to attack the Institution of Property with a psycho-pathic bitterness, and suspicion of all neutral or critical opinion. Blind to all the flaws in its logic we defend passionately our own pet economic theory, regarding anyone who questions it as a personal enemy and a violator of the foundations of reason. The deepest motives of Communist and Tory are identical—namely, the attainment *in fellowship* of a confident happy *rapport* which will take the place of the lost maternal tie.

I mean that it is not merely the unequal distribution of luxuries that is the cause of class-hatred. If it were so, a censorship of the Press which blazons the ideal of luxury and idleness would put an end to this social discord. In fact, the motive for much extravagant spending is literally, not to enjoy, but *more* to *display* wealth, to evoke the admiration or at least attention of other people,—in fact, to *cause* jealousy. Wealth, I hold, means more than enjoyment, it means social consequence, and social consequence, I have tried to show, is one way of holding the *rapport* with others which is needed by the instinct of self-preservation which has become that of Association. Confiscation of wealth then, assumes the aspect of murder, of expulsion from the community. If you take away a man's wealth, and if this means to him his power of commanding love, in the widest sense, then it is obvious that you have done him the unkindest thing possible. You have impugned his right to be loved and admired. The ideal of communism is to attain the desired fellowship love-relation by equality and co-operation, not by economic power over each other. They on their part fail to see the social motive underlying acquisitiveness. They fail to see that the Capitalist is aiming at their own objective, the maintenance of a social relationship, but by economically opposite methods. A strict analogy would be that the Capitalist aims to play parent to other people as children, while the Communists aim to be children together.

OSTENTATION

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This paper is designed to show that *ostentation* is the main means to satisfying the desires of the philosopher.

I am not imagining that in maintaining this I am maintaining anything which is new in any exciting sense. On the contrary, I believe that philosophers have always employed ostentation although they have seldom said so because, being busy philosophizing, they have had little time to philosophize about philosophizing. I believe that Jeremy Bentham meant by his word 'paraphrasis'[1] something very like what I mean by 'ostentation' and that those philosophers, such as Russell and Moore, who have spoken of 'incomplete symbols' and logical constructions have had in mind the same ideas.

Ostentation is a species of substitution. I substitute one sentence, S', for another, S, if I state that anyone who utters S' is saying the same thing as anyone who utters S.[2]

I perform the operation of *ostentation* upon a sentence S, when I substitute S' for S and S' reveals more clearly than does S, the structure of the fact (or facts) they *locate*.[3] Next 'locate' must be defined.

Anybody who utters a sentence is claiming that there is a fact (or facts) having such and such an internal structure—such and such elements arranged in such and such a way. Any fact which answers to the description is said to be *located* by the sentence. The description may of course be more or less complete.

The sentences which completely locate facts are those which are made up from adjectives, verbs and prepositions and proper names

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[1] Bentham *Works*, Vol. VIII, pp. 246-248. For the relation between paraphrasis and logical constructions, see *Interpretation and Analysis*. For relation between logical constructions and ostentation see the articles on logical constructions in *Mind*, April, 1931, October, 1931, October, 1932, January, 1933, April, 1933.

[2] 'To substitute' may mean *to state that* S' *may be put for* S or it may mean *to put* S' *for* S. 'To translate' is subject to the same ambiguity.

[3] This definition is not the same as that which I give in articles in *Mind*. There I define ostentation as the substitution of sentences which more nearly Display Facts. Display is not defined in terms of insight but of identity of structure. That definition is superior but is long and difficult.

(grammar book sense) only. The sentences which incompletely locate facts are those in which common nouns and an article are used. They are derived from complete sentences by substituting 'something' for one or more of the proper names in the complete sentence. Thus "Bob is happy", "England fought France", and "Othello was jealous of Desdemona on account of Jacio" completely locate facts. (Words like 'of' and 'to' and auxiliary verbs are neglected). "Something is happy, Something which is wicked is happy", "Everything which is wicked is happy" incompletely locate facts. "Something wicked is happy" is obtained from "Bob is wicked and Bob is happy". "Everything which is wicked is happy" means "Something wicked is happy and it is not the case that something wicked is not happy". "The thing which is wicked is happy" means "Something wicked is happy and it is not the case that something else is happy". "Bob loves Jessie" completely locates the fact that *Bob loves Jessie* and no other fact such as *Bert loves Jessie*. "Something loves Jessie" incompletely locates *Bob loves Jessie* and *Bert loves Jessie* but not *Bob loves Elizabeth*. "Something loves something" still more incompletely locates *Bob loves Jessie* and any other case of love.

When a sentence completely locates a fact it expresses it.[1] But we must not say of a sentence which incompletely locates a fact that it expresses that fact. It is customary, however, to say of an incomplete sentence, say "Joan loves someone" that it expresses an incomplete (or general fact). This is just a misleading way of saying that it incompletely locates a fact. And if we spoke only in the best style we should never use the expression 'incomplete fact'. Obviously there is a sense in which 'incomplete fact' is a nonsensical expression. 'Incomplete fact' is a nonsensical expression if 'fact' is used in the way it is when we speak of the fact (complete) that Peter loves Joan. There are not two species of fact, the one complete, the other incomplete; there are sentences which completely and incompletely locate facts. Whatever is said about the incomplete fact that F, could be said by speaking about the sentence 'F' which incompletely locates C, a fact (complete). The form (incomplete) of the fact (incomplete) *Something loves Joan* is the form of the fact which "Something loves Joan" locates. Joan is an element in the fact *Something loves Joan* means Joan is an element in the fact which "Something loves Joan" locates and is (unlike Peter) specified by "Something loves Joan". Thus do incomplete facts vanish, though their grins, of course, remain.

[1] S expresses the fact that F if and only if S and the sentence 'F' locate with equal completeness the same fact, i.e. if 'F' is substitutable for S.

A fact (complete) is either of the sort *This is* Q, where Q, like ' red ' names a quality ; or of the sort *This* R *that*, where R like ' adjoins ' names a relation ; or of the sort *This* R *that to that*, where R like ' gives ' names a relation ; and so on to facts with n-terms. The this's and that's are the *terms* or *constituents* of the facts ; the relations and qualities are the *components* of the facts ; the *elements* of a fact are its constituents and components. Two facts are of the same *form* when they have the same number of terms. The fact aRb differs from the fact bRa, not in its elements, nor in its form, but in *arrangement.*

Ostentation, I have said, is substitution which results in insight into the structure of the fact a sentence locates—a clearer, though not more complete, apprehension of the elements of that fact and of how they are arranged. No doubt you will find this statement obscure but I hope to remove the obscurity later.

I. The Philosophic Response

If you stimulate a philosopher in a suitable way he will begin to philosophize. To philosophize is to analyze.[1] When a man analyzes he makes statements of a certain kind with a certain intention. What kind of statement? One about words. What kind of intention ? Insight into structure. Let us consider these two points.

(1) *The philosopher's statement is verbal.* All philosophic statements are, of course, made *in* words. We may go further, however ; for all philosophic statements *mention* words. [Contrary to *Analysis and Interpretation* (p. 16) " The fact you considered yesterday has such and such an analysis " is no exception.]

Philosophic statements are of the form " The fact located by S has the elements and arrangement revealed by S' ". For example : *The fact expressed by " The average man has an intelligence quotient of* 60 " *has the elements and arrangement revealed by " The sum of human intelligence quotients divided by their number equals* 60 ".

There are many who would refuse to say that philosophic statements, even when confined to statements in analytic philosophy, are statements about words. And since to deny what they say would be to take a paradoxical and surprising view,[2] we may expect that what they say is in some important sense correct. Closer investigation will confirm this ; it will also, however, show that it is very easy to make a mistake about the sense in which philosophic statements

[1] Apart from speculative philosophy, which is the deductive study of the existence of God and the immortality of the soul.

[2] Surprising conclusions may be a sign of one's devotion to logic but they are also a sign of the falsity of one's premisses *or the ambiguity of one's language.*

are not about words and that in a very important and proper sense they *are* only about words.

I used to say that philosophic statements are not about words. I did not, of course, mean that they are not made in words, nor even that they do not mention words. I meant that what the philosopher primarily intends to locate by his sentence is a fact which is not about words.

I *primarily* intend to produce a situation, S, when I intend for its own sake to produce it. I *secondarily* intend to produce a situation, S, when I intend to produce it as a means to another situation, S'.

Suppose now that I say " The man on the donkey is the Sultan ". If my primary intention is merely to tell you which man is the Sultan, then although I mention a donkey and therefore, in some sense, my sentence is about a donkey, nevertheless there is a sense in which my sentence is not about a donkey—it is not *primarily* or *essentially* about a donkey. This being so I should of course be annoyed if you objected : " You are wrong. That is not a donkey, it is a mule ". I mentioned the donkey merely in order to draw your attention to a fact which is not about a donkey at all, the fact *That is the Sultan.*

Now it may be claimed that things are like this with the philosopher ; that his primary intention is to draw attention to facts which are not about words at all, that he only secondarily intends to draw attention to facts about words. But this won't do.

For what could this non-verbal fact, to which the philosopher primarily intends to draw our attention be? Take the case : " The fact expressed by ' England fought France ' has the structure revealed by ' Englishmen fought Frenchmen ' ".

From " The tallest man is older than the smallest " we can obtain a fact which makes no reference to size, by substituting names for descriptions thus—" Bob is older than Bert ". Can something similar be done when we have " The fact expressed by ' England fought France ' has the structure revealed by ' Englishmen fought Frenchmen ' ", and wish to obtain a fact which has no reference to words?

We could do this if the relation involved were anything other than the pseudo-relation *identity-of-structure.* But as it is we can not remove the descriptions without talking nonsense ; just as we cannot remove descriptions when we have the pseudo relation of *identity* between things. " The tallest is identical with the smallest " yields falsity or nonsense when names are substituted for the descriptions. For if " Bob is identical with Bert " is not false, we

can re-write it " Bob is identical with Bob " ; and that is nonsense.[1] Similarly we can not substitute the name ' this ' for the descriptive phrase ' the fact expressed by " England fought France " ', and the name ' that ' for the descriptive phrase ' the fact expressed by " Englishmen fought Frenchmen " ', and then write: This is identical in structure with that. For since no two facts have the same structure if " This is identical in structure with that " is true, we can re-write it " This is identical in structure with this "—which is nonsense.

How would it do to write, not " The fact located by ' England fought France ' has the structure revealed by ' Englishmen fought Frenchmen '," but " The fact that England fears France has the structure of the fact that Englishmen fought Frenchmen " or " *England fought France* has the structure of *Englishmen fought Frenchmen* ? "[2] It would not do at all.

For *Englishmen fought Frenchmen* is an incomplete fact and therefore has neither structure, nor form, nor elements, nor arrangement in the sense in which the complete fact *England fought France* has. Still less is the structure of the one identical with the structure of the other.

Shall we say that *England fought France* is identical in structure not with the incomplete fact *Englishmen fought Frenchmen*, but with the complete fact which " Englishmen fought Frenchmen " incompletely locates, viz. the fact that Tom, Dick and Harry (Englishmen) fought Henri, Francois and Jean (Frenchmen) ?

But this is not true. *England fought France* is a two-termed fact and contains England as a term ; it is not 6-termed and it does not contain Tom as a term.

We could say if we liked that *England invaded France* has six (say) *ultimate* terms and contains Tom, Dick and Harry as *ultimate* referent terms, *fought* (as applied to individuals) as *ultimate* component, and Henri, Francois and Jean as *ultimate* relata terms.

But when we have given ' ultimate ' a meaning which is compatible with the fact that a fact has in some sense only one set of terms, we shall find that the above statement is only a clumsy and obscure substitute for the following verbal statement : " England fought

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[1] Some people would say ' trivially tantologous.' I believe that ' nonsense ' is right.

[2] It might be thought that the expression ' The fact that England fought France ', and the expression ' *England fought France* ', are alternative expressions for ' The fact expressed by " England fought France " '. This of course would give me what I want—the verbalness of philosophic statements—at once. But I do not think it is true. I do not think that *It is good that he is happy* means *The fact expressed by ' He is happy ' is good.* Similarly I do not think that *That England fought France has the structure, etc.* means *The fact expressed by ' England fought France ' has the structure, etc.*

France " *finally* locates what " Englishmen fought Frenchmen " *directly* locates.

It remains (*a*) to find the sense in which the philosophic response is not merely a statement about words, and (*b*) to see more clearly what the statement about words is, by defining ' finally locates ' and ' directly locates '.

(2). *The philosopher's intention is not verbal.* It is obvious that the philosopher's work is not the same as that of the translator; it is obvious, in other words, that analysis is not translation. We cannot say that the difference is that the primary intention of the translator is to convey a fact about words, while the primary intention of the philosopher is to convey a fact which is not about words. For we have just seen the attempt to say *what* non-verbal fact it is the primary intention of the philosopher to convey, break down. We can, however, say:

A translator is one who substitutes a sentence, S', for a sentence, S, (in a different language) with the primary intention of teaching us the verbal fact which his sentence expresses, viz. the fact about the meaning of S. It is not the primary intention of the philosopher to convey a fact about words; this is not because it is his primary intention to convey a fact which is not about words, but because it is not his primary intention to convey a fact at all. His primary intention is not to provide information but to promote insight—insight into the structure of the fact located by the sentences which he equates.

His primary intention is clearer apprehension of the form, elements and arrangement of facts already known. Thus the philosopher does not differ from the translator in *what* he says but in the *intention* with which he says it.[1] The philosopher intends of course to say what he does about words but only as a means to insight; any other fact, whether about words or not, would do as well for his purposes, provided it would produce the same insight. An English-French dictionary could not be written in German and Spanish; but a philosophy done in English and French could as well be done in German and Spanish, that is to say, it could as well fulfil the primary intention of him who wrote it. For it could as well promote the intended insight into the structure of facts.

(3). *The nature of the philosopher's intention.*

(3.1). *Increased clearness in the apprehension of the structure of a fact must not be confused with knowing the fact more clearly.* If one has never clearly observed the difference between *loathing* and *despising* and consequently writes indifferently " Bob loathes Bert "

[1] A liar does not differ in *what* he says from one who *un*intentially deceives.

or " Bob despises Bert " and the distinction is then pointed out to one, then there will probably result an increase in the clarity of one's knowledge of the fact that Bob despises Bert. This kind of increase in clearness of knowledge is often produced by removing ambiguity from sentences—a very different thing from ostentation. To know a fact clearly is not the same thing as to see its structure clearly.

Someone may say: What stuff! To know a fact is to know that its elements are arranged in the way they are. Hence one cannot know a fact without knowing its structure, nor clearly know it without clearly knowing its structure. To know the fact that England fought France is to know that England fought France. To *tell us about* the structure of the fact that England fought France by writing " There is a two-termed fact with England as referent, France as relatum and *fought* as component ", instead of *exhibiting* the structure by writing " England fought France ", is to gain nothing.

(*a*). I do not imagine for a moment that anything much is gained by re-writing " England fears France " in the sentence " There is a two-termed fact with England as referent, etc.". To do so would be to confuse changing apprehension of structure into knowledge about structure, with increasing clearness of apprehension of structure.

(*b*). It is false that one can not know a fact clearly without knowing clearly its structure. For this happens when sentences are compressed. Thus there is no doubt that one's apprehension of the structure of the complex fact located by[1] " The Church in Hyde Park is large " becomes clearer when it is translated, (i) " Something is a church in Hyde Park; (ii) Something, the same thing, is large; (iii) It is not the case that Something, another thing, is a church in Hyde Park. Again, the similarity of the structure of *A ruler of the universe exists* to the structure of *The big man is injured* (*by something*) is not obvious till we substitute for the former sentence the new sentence " The universe is ruled by something ". Yet we may know quite clearly the facts *The Church in Hyde Park is large* and *A ruler of the universe exists*, in the sense that we have not the slightest tendency to confuse them with other facts, without expanding the sentences and so obtaining the consequent increased clearness in the apprehension of the structure of the facts they locate.

(3.2). *The philosopher's intention is not increased clearness in the apprehension of the non-ultimate structure of facts.* I do not, however, wish to assert that it is the philosopher's business to promote increased clearness in the apprehension of structure in *this* sense of 'structure'. This kind of improvement is the business of the

[1] More accurately—' the structure of a representative selection from the facts located by '.

logician and results from formal definition or expansion, an operation much easier than ostentation. It is possible to apprehend ever so clearly the structure of a fact, in this sense, without approaching the goal of the philosopher.[1] For his goal is not increased clearness in the apprehension of structure but increased clearness in the apprehension of ultimate structure or Structure. This distinction is difficult but important.

(3.3). *The philosophers intention is increased clearness in the apprehension of the ultimate structure of facts.*

(4). *'Ultimate structure' means 'Structure'.* When, on p. 168, we were considering the fact *England fought France* we supposed a nation to be 'reducible' to its nationals, in the sense that to say anything about a nation is merely to say something (though not the same thing) about its nationals. If we suppose that men are similarly reducible to their mental and bodily states, then we may write out a series of sentences which more and more reveal the ultimate structure of the fact *England invaded France.*

(1) " England invaded France ".

(2) " Englishmen sent men who moved threateningly on to land owned by Frenchmen ".

(3) " The E-groups of states (corresponding to, though not identical with, Englishmen) included decisions which caused a threatening movement included in the S-groups of states (soldiers) and 'on' the L-group of sensa (the land of France) 'owned by' the F-groups of states (Frenchmen) ".

We shall do well to write down now, something like the complete forms of the above sentences. " England invaded France " is itself complete so we write:

(a) " England invaded France ".

(b) " Tom, Dick and Harry sent Harry to France owned by Henri, Francois and Jean ".

(c) " T_d, D_d and H_d (decisions) members respectively of $T_1 \ldots T_n$ (states of Tom), $D_1 \ldots D_n$ (states of Dick) and $H_1 \ldots H_n$ (states of Harry) caused H_m (movement of Harry) 'on' $F_1 \ldots F_n$ (sensa of France) 'owned by' $h_1 \ldots h_n$ (states of Henri), $f_1 \ldots f_n$ (states of Francois), and $j_1 \ldots j_n$ (states of Jean) ". Here the letters are names not variables; otherwise (c) would mean the same as (3). [For " X (some person) killed him " would mean the same as " Some person killed him " if 'X' were used as a variable; though it would of course mean the same as " Bob killed him ", if 'X' were a name.]

[1] Thus the definition of *x is the brother of y* which I gave in *Interpretation and Analysis*, is not an example of philosophical analysis but of formal definition or analysis.

Let us say: (i) that each sentence in the second series *directly* locates the fact it expresses, i.e. ' a R b ' directly locates the fact that a R b; (ii) that each sentence in the first series *directly* locates the fact which its complete form (in the second series) expresses; (iii) that each earlier sentence in each series *in*directly locates the fact (perhaps very complex) directly located by any later sentence. Let us say that each of the sentences *finally* locates the fact located with varying degrees of directness and completeness by every one of the sentences, i.e. the fact expressed by the sentence " T_d, D_d, H_d, etc. ". The elements of the fact finally located by all the sentences, though directly located only by the two last in each series, are the *ultimate* elements of the facts those sentences locate. In other words: the ultimate structure of the fact that a R b is the structure of the fact which the sentence ' a R b ' finally locates.

On this interpretation of ' ultimate structure ' it is not that a fact has many sets of elements and many structures but that the sentence which expresses it, locates with differing degrees of directness many facts, each of these facts having its own structure. Now this is as it should be. A fact *is* a set of elements arranged in a certain way: how then can it also be a different set of elements in a more complicated arrangement?

A refinement may now be introduced. It is obvious that the sense in which Tom is an element in the fact located by " England invaded France " is different from the sense in which England is; and we have said what this difference is; England is an element of the fact which " England fears France " *directly* locates, Tom is an element of a fact which it *in*directly locates, sense data are elements of a fact which it still *more* indirectly locates. It is not equally but I hope that it is sufficiently obvious that the sense in which Tom is an element in the Tom-Dick and Harry-fact is different from that in which England is an element in *England invaded France*; while the sense in which the states are elements in the T_d-D_d-H_d-fact is different again.

If this is not sufficiently obvious the following proof may be read. If a nation is reducable to its nationals (and it *is*) then statements about nations are statements about their nationals, i.e. predicates applicable to nations are definable in terms of predicates applicable to their nationals. Therefore the predicate applicable to England, *element of the fact that England fears France*, is definable in terms of a predicate applicable to Englishmen. It is now obvious that that predicate is *element of the fact located by " Englishmen, etc. "*. Thus it appears that the sense of ' element ' in which England is an element, so far from being identical with, is definable by, the sense of ' element ' in which Tom is an element. Similarly it may be

shown that if Tom is reducable to his states then the sense in which he is an element is definable in terms of the sense in which his states are.[1]

Let us write that sense of 'element' in terms of which all the others are to be defined, 'Element' and the sense of 'arrangement' in terms of which all the others are to be defined, 'Arrangement' and the sense of 'structure' in terms of which all the others are to be defined, 'Structure'.

We may now write the final definition of 'ultimate structure' as follows: The ultimate structure of the fact that a R b is the Structure of the Fact finally located by the sentence 'a R b', e.g. the ultimate structure of the fact that England invaded France is the Elements and Arrangement of the Fact which "England invaded France" finally locates. The structure of the fact that a R b is its ultimate structure when the fact which 'a R b' directly locates is the fact it finally locates.

(5) *The ultimate elements of a fact must not be confused with the simple elements of a fact of the second order*, i.e. *a fact about facts.* Miss Stebbing's language in her paper "The Method of Analysis in Metaphysics"[2] suggests that she is taking this view. And the language of others has less clearly suggested the same thing. To take such a view is to confuse such a series as (1) (*That*) *gives me satisfaction*, (2) ([*That*] *is good*) *gives me satisfaction*, (3) ([*He is happy*] *is good*) *gives me satisfaction*, with the England-to-states series.

Such serial translation as this results in clearer apprehension of the vertical structure of facts. But like the revelation of horizontal structure (3.1 and 3.2) it is still a revelation of structure, not Structure; and to confuse it with the serial translation in the "England etc." to "T_d, D_d, H_d, etc." series is to confuse a species of expansion with ostentation.

From the view that philosophic analysis consists in revealing the elements of a fact which are simple in the sense of not having elements, it would follow that philosophic analysis is applicable only to facts of the second or third or fourth or etc., order. But *England fears France* is of the first order—it is not a fact about facts. The

[1] In general: If x is reducable to y then facts about x are reducable to facts about y. And then the sense in which facts about x have elements will be reducable to that in which facts about y have elements. Compare incomplete facts. It will be noticed that all the complete facts above are complete only relatively to their incomplete forms and the facts above them in the series; they are incomplete relative to the facts below them. Only the T_d—D_d—H_d fact is absolutely complete. Thus England invaded France must be incomplete in some sense since the incomplete 'Englishmen sent etc.' can be substituted.

[2] *Proceedings of the Aristotelian Society.* December, 1932.

ultimate elements of a fact are, when they are not its elements, simpler in some sense than its elements; but they are not simpler in the sense that the non-ultimate elements are facts of which the ultimate elements are elements. England is not a fact of which Tom, Dick and Harry are elements.

(6) It should now be clear why I speak of 'the philosophic response' instead of 'the philosophic proposition'. For the philosopher should be defined, not in terms of what he does but in terms of his intention. This is always useless though harmless—it is insight into the Structure of the Facts which our sentences finally locate.

(7) Ostentation is defined as the translation of sentences which less reveal, and more mislead as to, this Structure into sentences which more reveal, and less mislead as to, this Structure. It should be noticed that "England invaded France" does not merely not reveal the structure of the fact it finally locates, but by its verbal similarity to "Tom hit Bob", it suggests that the Structures of the facts located are of equal complexity.

(8) *It is clear then that if ostentation is possible it is a philosophic method. It is possible.* The case of "England invaded France" which we have considered does not prove that ostentation is humanly possible; for the translation was not in that case carried out correctly and in detail. It was, however, carried out roughly and in outline. And ostentation has been successfully practiced in 'reducing' propositions to judgments and general facts to sentences and complete facts.

(9) *And there is no other method of fulfilling the philosophic intention, half so potent.*

(10) *We are therefore entitled to accept the proposition that ostentation is the main philosophic instrument.*

II. The Philosophic Stimulus

The same conclusion is reached from a study of the philosophic stimulus. I say 'stimulus', not 'question', because the philosophic stimulus is not a request for information, but a request for insight.

(1) The Philosopher asks What is the Self? What is the State? What is Time?

(2) The expression "What is . . . ?" is very ambiguous. Anyone who asks "What is an anemometer?" is asking "What functions does an anemometer perform?" The philosopher, of course, is not asking "What functions does the self perform?" The psychologist does that.

(3) The philosopher is not using " What is . . . ? " in the scientist's sense. When the philosopher asks " What is a chair ? " " What is water ? " he is not asking for the chemical formulae for these. This may seem too obvious to be worth mentioning. But there are people who speak as if it is the business of the philosopher to carry the work of the scientist a stage further. Mr. Joad once tried to persuade me to give up putting the philosophic stimulus in the form " What is the analysis of *This is a table* ? " and to put it in the form " What makes up a table ? " This latter formulation has a healthy, none-of-your-philosophical-hocus-pocus, look about it. But it is as ambiguous as, and perhaps even more misleading than, the orthodox formulations, " What is the nature of X ? " " What is the ultimate nature of X ? " " What is X ? "

" What is water ? " asked with a profound look and in the philosophic manner, has a confusing verbal similarity with " What is water ? " asked briskly and in the scientific manner. But the two requests differ in kind, not merely in degree. When has a philosopher ever pushed a scientific enquiry a stage further ? And supposing it were found that the neutron is scientifically ultimate, would that be a philosophic discovery ?

No—the philosopher is asking for a certain kind of definition of the self, of the state.

(4) He is not of course using " What is . . . ? " in the foreigner's sense and asking for a verbal definition.[1]

(5) He is not asking for formal definition.

(6) It is not that a nation is a fact and the philosopher asking for its elements.

(7) Is it that there is another kind of unity, not to be identified with a fact, nor to be identified with the sort of unity of which the scientist finds the elements ? If we call such a unity a philosophic unity and its elements philosophic elements, then we might ask : " Is a nation a philosophic unity and a philosopher one who asks what are its philosophic elements ? " Let us consider this view which though objectionable is not without excuse.

If we ask " What is a nation ? " " What is England ? " there appear to be two possible answers : (1) A nation is its nationals and

[1] We are often told to begin by ' defining our terms '. But what does this mean ? Our instructor should follow his own advice. Certainly we should begin a book on Ethics or Economics by verbally defining ambiguous expressions such as ' good ', ' useful ', ' interest '. And if we wish to proceed from the logically simple to the logically complex, we should next provide formal definitions or formal analyses of *good*, *rent*, etc. But if we wish to proceed from the certain to the less certain, we should set out first the laws of the science or the more obvious laws and then analyse. This analysis might then bring to light less obvious laws which in their turn would improve analysis. *Philosophical* analysis should not appear at all in a scientific work.

England is Tom, Dick and Harry; (2) A nation is a unity " over and above " its nationals and England is a unity " over and above " Tom, Dick and Harry. These may be set out more clearly as follows: (1) To say something about England is to say it about Englishmen; (2) To say something about England is not to say it about Englishmen, but about a unity in which they are elements, (though something about the elements may follow from what is said about the unity).

(2) is objectionable. For if we have said all there is to be said about Tom, Dick and Harry, including of course statements about their interrelations, we shall have said all there is to be said about England, even if none of our statements mention England. When England makes war on France, is there besides the fact that Tom, Dick and Harry are fighting Henri, Francois and Jean, some other fact about a unity (philosophic) England and a unity (philosophic) France? And is there besides the fact that Englishmen each acknowledge a king, another fact, that England is a monarchy? But (2) is not without excuse; for we cannot accept (1).

For to say that England is a monarchy is not to say *that* about Englishmen. " Every Englishman is a monarchy " is nonsense but " England is a monarchy " is sense; therefore to say the one is not to say the other.[1]

This dilemna arises because we put the philosophic requests in the substantival manner: " What is a nation? " If we had asked instead: " What is the Structure of national facts? " " What is the structure of facts about England? " then we should have seen that besides the alternatives, (1) *To say something of England is to say it (the same thing) of Englishmen*, (2) *To say something of England is not to say it (the same thing) of Englishmen*, there is a third alternative, (3) *To say something of England is to say something but not the same thing of Englishmen.* And (3) is clearly the right alternative. " England *is a monarchy* " means " Englishmen *acknowledge a king* ". Again " What is Time? " is hopeless. But " What is the structure of the fact *Time heals all wounds* ? " is not.[2]

It is, however, a mistake to put the philosophic stimulus in the form: " What is the structure of the fact that a R b? " As we have already seen, we might in this way accidentally start the logician. This could be avoided by asking " What is the Structure of the fact which the sentence ' a R b ' finally locates? "

But even this form is open to objection. For it suggests that we do not know what the Elements of the fact finally located by ' a R b '

[1] ' The group of Englishmen is a monarchy ' is no use. It is as redundant as England is a monarchy. See Susan Stebbing's *Logic*, p. 147.
[2] See Moore, *Philosophical Studies*, p. 209.

are and how they are Arranged. Yet to know the fact that a R b *is* to know the Elements of the fact which ' a R b ' finally locates and how they are Arranged.

(8) We must then put the philosophic stimulus in the form, not of a question, but of a prayer—*Please give me clearer apprehension of the Arrangement of the Elements of the Fact finally located by the sentence ' a R b '.*

DIALECTICAL MATERIALISM

A Reply to Professor Hogben

By P. A. SLOAN

I.

It is not to the credit of the open-mindedness of British scientific and philosophical thought that when a group of travellers in Dialectical Materialism recently visited our shores their goods were regarded as some strange exotic novelty. It is at any rate gratifying that at least one journal was ready to subject their wares to further examination, apparently undaunted by the possible accusation of aiding and abetting a new and most pernicious form of 'dumping.' But perhaps it only ventured so far because the examination consisted in very brilliantly labelling the goods "Foreign Produce."

Any genuine attempt to explain in the English language the "essential features of dialectical materialism" is an important contribution to the scientific thought of the island, and we cannot over-estimate the importance in such work of studying, both "the historical situation in which the views of Marx matured and the orientation of philosophic schools in Russia during the two decades which preceded the revolution." It is a pity, however, that Professor Hogben, in undertaking this valuable piece of work,[1] should have laid such emphasis on the purely national academic movements surrounding Marxism and paid so little attention to the more general social and economic processes from which it emerged. The impression created by Professor Hogben's article is that the distinguishing features of dialectical materialism can be traced to certain purely local tendencies in philosophic thought, and that, if certain modifications were made in "a jargon essentially mystifying to those who have never had the misfortune to learn their philosophy from Prussian schoolmasters" dialectical materialism would be then acceptible to English philosophers and scientists. It appears that throughout the article Professor Hogben has seriously underestimated the significance of the features which distinguish dialectical materialism from other philosophical systems. The purpose of this article is to elaborate this view.

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[1] *Psyche*, Oct., 1931.

II.

In his explanation of the Marxian significance of the term *Dialectical* Professor Hogben seems to have been subject to an important error. For, having quoted from Lenin the statement that " dialectics . . . includes what is now called the theory of cognition or epistemology " and having rightly concluded from this that " the materialism to which communists subscribe lays emphasis upon a particular attitude to the way in which human beings derive knowledge," he then proceeds, throughout the rest of the article, to write as if this were the only distinguishing characteristic of dialectical materialism. Only on the basis of such a misunderstanding could he have stated that " from the empiricism of Hume dialectical materialism differs in method " only, and " from the empiricism of Mill and Thomas Henry Huxley dialectical materialism differs " only " in its emphasis upon immediate experience as the summation of an historical process." Finally, only on the basis of such a serious misconception of the real significance of dialectical materialism can be explained the following passage : " Communist philosophers . . . prefer to take the works of Hegel as the starting point of modern philosophy, because Marx derived from Hegel his conception of historical change as an orderly process. If Marx had studied philosophy and history in England, he might have taken the same idea from Buckle. Had he studied in France he might have derived it from Guizot ". In fact, not only did Marx study for a considerable part of his life in London, but he also frankly acknowledged the importance of Guizot. And it was not because of his German origin that Marx paid more tribute to Hegel than to any other philosopher. It was because Hegel provided a philosophy of history which was consistent with the needs of a rising working class movement, for it showed for the first time the significance of revolution in human development. Marx was international in his reading, and it was among the philosophers of all nations that he selected Hegel, not only among the Germans. The reason for the importance of Hegel does not lie in a mere theory of knowledge, as apparently is believed by Professor Hogben, but in something much more fundamental which we shall now examine.

Hegel's Dialectic, in the first instance, was a system of logic based on an analysis of the development of ideas. But since, to an idealist, the cosmos itself is Idea, it followed that the laws of logic must also be the laws of development of the universe as a whole, including human society. Thus, the laws of logic were transmuted into the laws of history. But Hegel's logic was significant in its emphasis on contradiction as the essence of thought, thus interpreting the development of the universe also as a continual growth

show in what this exploitation consisted and how it arose. But for this it was necessary—(1) to present the capitalistic method of production in its historical connection and its inevitableness during a particular historical period, and therefore, also, to present its inevitable downfall; and (2) to lay bare its essential character, which was still a secret". The first of these tasks was fulfilled by Marx and Engels in the discovery of the truths comprised in the term *dialectical materialism*, the second, in *surplus-value*. We thus see that dialectical materialism is quite openly a fighting creed, and its frank hostility to any other system of thought is based on this fact. For, dialectical materialism is the only philosophical system which gives a scientific basis to socialism as a political creed.

To an English philosopher or scientist, glancing through the pages of Lenin's *Materialism and Empirio-Criticism*, perhaps the most shocking feature of this most disturbing book would be the frequency with which scientists and their theories, hitherto regarded as absolutely innocent of political leanings of any kind, are labelled 'reactionary'. It is the linking up of science, philosophy and politics which is the most novel feature of dialectical materialism from the standpoint of academic England, for its linking up of the theories of 'pure' science and philosophy with current political controversy appears the most outrageous assault on academic impartiality and the scientific mind. For it is hard for the English philosopher and scientist to perceive the remotest connection between their own ignorance of dialectical materialism and the fact that in the last election the Communist Party received only about 800,000 votes. To the communist, however, there is a profound connection between these two phenomena. It may contribute to an understanding of the communist system to outline this connection.

The ideology which is predominant at any period of history is that of the ruling class. The ruling class in England to-day is the capitalist class, or the property-owning class, and this class, though a minority of the population, employs the breadwinners of about 75% of that population in economic activity working as wage-earners, with no other means of livelihood but their labour. Though the propertied class has only a minority of votes it still holds the reins of power, being able to pay for the propagation of its own ideas to the detriment of all others. This occurs through the press, through such institutions as the Gifford Fund, mentioned by Professor Hogben, and in two different ways through the educational system. Firstly, the system is such that the philosophers and scientists are drawn almost entirely from the ruling class, and secondly, the children of the masses are regularly brought up to the necessity of preserving the existing system. The result is, the intellect has a class bias,

for it is only interested in directing its impartial researches to those questions in which the ruling class is interested. Because, the ruling class was not interested in a philosophy of revolution, it never noticed dialectical materialism of its own accord; and because the working class in England has on the whole rejected the revolutionary method during the last fifty years, dialectical materialism has not been forced upon the ruling class for discussion, or refutation, from below, as occurred in continental countries where the workers were far more revolutionary. Hence, in England, there is an essential and visible link between the smallness of the Communist Party and the ignorance of scientists with regard to dialectical materialism.

When considered from this point of view it becomes clear that English science to-day, even though accepting the theory of evolution, is on the whole reactionary, since it allows itself to be interpreted as favouring gradualism as opposed to sudden change. For only by this fact can be explained the adoption of the term ' evolution ' as synonymous with the " inevitability of gradualness " in current political jargon. In permitting this interpretation of the theory of evolution the English scientists are doing either of two things: Retaining a position which ultimately denies the necessity for sudden change, in which case they are mechanistic and anti-dialectical, or simply are " content to conform to the English practice of understating their case ". If they fall into the latter category, then they enter into the realm of the ' shamefaced ', so much criticised by Lenin, who allow themselves to be wrongly interpreted because they are either too lazy or too interested in remaining respectable to correct misunderstandings.

It was not through ignorance of the fact that " in this country those who are identified with the view that sense data are the ultimate ingredients of the universe of science are at one with the materialists in forming a solid phalanx against the intrusion of anthropomorphic and teleological concepts into scientific reasoning " that Lenin so vehemently attacked Hume and Pearson and relegated them to the same limbo as Berkely, but an acute consciousness of the fact that their position, while for the time being on the side of materialism, was always a potential weakness which the opposition could attack. The same parallel is traceable in political controversy. No doubt Professor Hogben, writing on English socialism, would say that " the Labour Party had been at one with the communists in forming a solid phalanx against the protagonists of conservatism and liberalism ", but at the same time, their unwillingness to overthrow if necessary the existing system by force is a weakness which the forces of reaction can continually use to their advantage. So long

as sense data are held to be the " irreducible ingredients of the physical universe " perpetual compromise with idealism is made easy, however strongly the individual agnostics may protest. That is why Hume and Pearson are classed with the forces of reaction.

Until English science openly proclaims the necessity for sudden change as an element in evolution and openly combats any misunderstanding which may now exist on this matter it is allowing a part of the truth to lie hidden. Its only reason for doing this must ultimately lie in its willingness to be misinterpreted, and this in turn leads back to the attitudes of different classes to revolution. The discussion of dialectical materialism on the continent of Europe and in Russia before 1914 side by side with complete silence in England was no mere effect of the supplanting of " garrulous disquisitions of the I and the not-I " by " the theory of relativity, the evolutionary process, the relation of mathematics to discursive reasoning " and so on, as Professor Hogben suggests ; for these tendencies themselves had a deeper cause, lying in the difference between the continental and the English labour movement. It is significant that today, while the working-class movement is becoming increasingly militant, dialectical materialism has been injected into the sphere of English thought by emissaries from the one socialist state which as yet exists in the world. Perhaps, after all, this may have been an even more pernicious form of ' dumping ' than anyone would have suspected at first sight !

CURRENT LITERATURE

MEANING AND CHANGE OF MEANING

Meaning and Change of Meaning, with special reference to the English Language, by Gustaf Stern (Göteborg, 1932, 25/- post free).

The system (if we may call it such) of human studies shows a number of unfortunate cracks, or gaps. There is a bad one between logic and psychology, another between logic and ethics, another all round epistemology; but the most embarrassing and obstructive of all is that between this group as a whole and semasiology (or the study of linguistic meanings, the inquiry into how words are used). It is true that at times an exceptional logician will daringly wonder if perhaps the aim of logic (and philosophy) is to provide the methods by which the meanings of words may be defined—but there the matter usually ends; he will not thenceforth proceed any more as though it were so. For the detail, and it is from study of the detail that advances must come, the detail of how words mean, how they change their meanings, how they combine and separate them, is another subject needing another training. And on the other side of the gap, the philologist—though he too sometimes suspects that his subject is ultimately capable of swallowing up philosophy, has learned by grim experience that logic and psychology—not to mention epistemology—are awkward things to play with. So he keeps away from the intellectual buzz-saws; and, as both philology and philosophy grow ever more and more technical, the gap between them, if anything, widens.

The honour due to Dr. Stern, then, for throwing a bridge across this gap, is the greater; his book will be extremely welcome to all who realise how dangerous the gap is and who hope that in time, before long perhaps, means may be found to close it. Dr. Stern combines very exceptional qualifications. He has the philologist's training and width of scholarship—with the caution and love of thoroughness (which so often seems excessive to the outsider) that only such a training can give. He combines with this a lively, very intelligent, critical interest in psychology (and remarkably wide reading, especially in experimental work), and a capacity to take care of himself amid its pitfalls which would be distinguished in a specialist. And he here devotes 400 large pages of closely constructed, coolly argued, richly instanced, clearly displayed thinking (in admirable English), to the question: How are we to treat the

meanings of words systematically so as to examine their history and the modes of changes that take place? I propose to divide my review into two parts: giving first a short inadequate summary of his decisions, and second a more detailed examination of some of them.

After stressing the need for a comprehensive theory and the dangers of remaining too long contented with Wundt, he goes on to two questions preliminary to the first great problem—The definition of meaning. "One of them is the functions of speech, which are intimately involved in the definition of meaning, as well as in the whole problem of sense-change. The other is a general theory of signs". These occupy Chapter II. His account of the speech functions I reserve for later discussion; the theory of signs is similar to that outlined in *The Meaning of Meaning*.

Three factors must be jointly considered in attempting a definition of meaning. "The fact that words and meanings are secondary conditioned phenomena, has been neglected by most philologists writing on semantic theory, and also by earlier psychologists. They handle words and meanings as primary, independent entities, a view that leads them into various mistakes". Not only words and subjective apprehension must be considered, but objective reference also. Word, meaning and referent; all three are involved in a definition of verbal meaning. The definition that results is: "The meaning of a word—in actual speech—is identical with those elements of a user's (speaker's or hearer's) subjective apprehension of the referent denoted by a word, which he apprehends as expressed by it". Some considerations as to Stern's use of the word 'referent' I postpone. Meaning, so defined, is then subjected to close analysis—from the psychological point of view first: as regards cognitive and emotive ingredients; the imagery and 'imageless thought' problem; central and peripheral elements, and kinds of vagueness—an extremely important matter to lexicologists. Secondly from a logical standpoint: actual meaning in speech and the lexical meanings of the isolated word; general and particular meaning; specialized and referential meanings—e.g., *Be a man! All men are mortal*; tied and contingent meanings—e.g., *dog, yesterday*; the problems of relations, word and phrase, autosemantic and synsemantic meanings, (complete and dependent meanings, e.g., *boy, the boy's*). Chapter IV closes with a criticism of Paul and a useful note on Gomperz' analysis. The next two chapters deal with the production and the comprehension of speech, chiefly on the basis of experimental and clinical studies. Throughout very full references are given.

The author then comes to his general theory of sense-changes and so to the main subject of the book. "I define change of meaning

as the habitual modification, among a comparatively large number of speakers, of the traditional semantic range of the word, which results from the use of the word (1) to denote one or more referents which it has not previously denoted, or (2) to express a novel manner of apprehending one or more of its referents ". He thus distinguishes from *change* of meaning, both fluctuations : i.e., occasional modifications by individuals as opposed to " habitual modifications of the semantic range of a word among a comparatively large group of speakers " (*Semantic range* is the totality of meanings a word can express—as opposed to *referential range*, the totality of the referents it can be used for), and occasional specialization, e.g., ' This is a *book*, not a collection of scribblings '.

The classification of sense-changes follows. The author began his work with an empirical sorting of historical instances, mainly with regard to the psychic processes involved. He then turned the matter round to consider whether systematic theory would justify the divisions thus arrived at. They are :

(1) *Substitution*—changes due to external, non-linguistic factors, e.g., *ship—airship*, language only registering a change due to factors outside it.

(2) *Analogy*—the change following by analogy a change in the meaning of some other word, e.g., *fast* adjective from ' firm ' to ' quick ' following the adverb *fast*.

(3) *Shortening*—a part of a compound expression takes over the meaning of the whole with omission of the other part, e.g., *private* for *private soldier*.

(4) *Nomination*—the intentional naming of a referent, new or old, with a name that has not previously been used for it. Sub-classes are : Intentional naming with a new invented word ; intentional transfer (non-figurative) ; figures of speech (causes more or less emotive).

(5) (*Regular*) *Transfer*—unintentional transfers, based on some similarity between the original (primary) referent of the word and the new (secondary) referent. E.g., *leaf* (of tree), *leaf* (of paper).

(6) *Permutation*—unintentional change in which the subjective apprehension of a detail—denoted by a single word—in a larger total changes and the changed apprehension (the changed notion) is substituted for the previous meaning of the word—e.g., *counting his beads* (prayers) *counting his beads* (balls of a rosary) ; *boon* (what is asked), *boon* (what is graciously given) ; the two notions must be *functional synonyms* within the *phrase*-meaning.

(7) *Adequation*—unintentional sense-change consisting in a shift of attention from one characteristic of the *word*-referent to another.

E.g., *horn* (of an animal used as musical instrument), *horn* (instrument of a certain kind).

Thus summarily presented this classification may easily seem—to a reader whose interest is not deeply engaged—trivial or pedantic. It is only when we pass from a distant schematic view to a close comparison and a speculative endeavour to analyse and interpret instances, which occupies the rest of the book, that the important possibilities of such work appears. It was not a part of Dr. Stern's purpose to point these out, and his work may, for this reason, not receive for a time the attention it deserves. It is quite likely, for example, that my reader may say " A philologist applying psychology to his special field, high time too! Careful and well-informed? Excellent! "—and leave it at that. But if Dr. Stern has here shown how to make modern psychology at last begin to clarify semantics, he has at the same time, begun to show something else, of very much more interest to us all—how, namely, to make the study of language tell us—what it alone, perhaps, can tell us—about ourselves. Again and again in his patient, lucid, cautious analyses, an attentive reader will feel that a method is coming into sight by which the record that the history of language holds can provide a quite new type of evidence to psychology. " It has often been assumed that a word could be transferred to denote a referent standing to its primary referent in practically any relation. In my opinion, the material at present available shows that this is improbable. When the relation between the primary and the actual referent is not one of similarity, the shift is not so simple, and can occur only through the mediation of a peculiar verbal context, as described in the next chapter (permutation), or in the form of an adequation ". We can, it is true, as a *fluctuation*, and with the aid of a special verbal context devised for that purpose, intentionally shift the sense of a word along any relation we take as holding between the referents. We do in dialectical gymnastics and debate endlessly to shift them. (Just as in artificial conditions we can get creatures to do all kinds of things they do not do ' in Nature '.) But Dr. Stern's observation, if it proves correct, gives us at least a glimpse of what may be some of the normal forms of mental operation under normal social conditions as opposed to temporary special group conditions. (All psychologists belong as such to special groups which is one of their main difficulties.) To use a figure, the history of language, if we could work it out a little further, would begin to give us geologic evidence by which to check what we get from introspection and other work done under comparatively arbitrary and changeable conditions.

Towards all this Dr. Stern has made a notable contribution. I am anxious to stress the debt which all seriously interested in these

matters will owe him, before going on to discuss points at which a worker on the other side of the philology-philosophy gap may have a fancy that his treatment can be improved. One cannot tinker with a kettle which has not yet been made. To have put forward a clear statement on these matters is to have shifted the whole thing, for everybody concerned, to a new level of accessibility and control. To work with this book is to realize its rare lucidity, order and design (its cross-reference system is very well handled) as well as the author's discretion in avoiding the traditional vapidities and his good manners in a subject in which wrangling is almost traditional.

To turn now to the points at which difficulties seem to me to arise in Dr. Stern's general theory and classification. The most important concerns the terrible problem of how to use the word 'referent'. I suspect—though it is excessively hard to be clear minded, for any length of time, about it, or to find formulations which will keep the matter clear—that the working of some of the divisions in the classification depends upon a systematic equivocation (let us hope it is a case of functional synonymity) of the word 'referent'. Consider the following problem :—

Dr. Stern distinguishes "three main types of substitution, according to the origin of the change. The origin may be a factual change of the referent, or a change in our knowledge of the referent, or a change in our emotive attitude towards the referent". (p. 194). The first two types raise the problem. In the first the referent is subjected to a factual change, due to progress or modifications of technique, habits, etc. Among his examples Dr. Stern gives : *ship*, the referential range extending in course of time to include steam-, motor-, air-ships . . . ; *telegraph*, *artillery*, *Deutschland* (not the same as it was last year !) *meaning* (whenever it is redefined) proper names (their referents changing as the owners grow up—one might say, hourly) and he adds, "the meanings of ethical, aesthetic, religious, philosophical and other scientific terms are in a constant flux. I shall only quote the words *religion*, *God*, *sacrifice*, *holy*, and so on, which together with their equivalents in other languages, have had their meanings greatly modified by the introduction of Christianity". (p. 197).

As instances of the second type—"when the referent in reality remains unchanged, but our knowledge of it changes" he gives, among others, *electricity*, and *atom*.

The paradox involved if we have to say that Augustine changed God but Clerk Maxwell did not change electricity, or Rutherford the atom, is fairly startling. I thought at first that the choice of these examples was merely a slip on the part of the author (easily excused by anyone accustomed to the tricks of the word *meaning*).

But further reflection shows, I think, that the paradox springs from an ambiguity in the use of the word *referent* which is difficult to avoid, especially if we use it in connection with isolated words or phrases. Dr. Stern excellently explains on an earlier page the difference between actual and lexical meaning and points out that he is concerned only with actual meanings, that is with words in actual speech, not with words as they appear in a dictionary, for example. With an isolated word, " two of the three determining factors of meaning are left vague : we do not apprehend definitely the objective reference, and we do not know under what aspect the referent is to be apprehended—the subjective apprehension is vague. It is only the third determining factor, the traditional range, that is, or at least may be, definitely known ". In spite of which, we are inevitably, in any large scale survey, forced to take words in isolation, supplying vaguely, and in imagination only, the contexts necessary to give them actual meaning.

This accounts for part, though only for a minor part, of the difficulty. As we supply different contexts for *God* and for *atom* in this example, we can easily get actual meanings for them which will let us place changes in their meanings in either of Dr. Stern's types of substitution—change of the referent and change of the notion of it. But the worst part of the difficulty still remains. It is this :

When we ask about any two instances (or collections of instances) of the use of a word, whether the referent is or is not the same, we cannot answer unless we have means of finding out what the referent is on each occasion. And—with the sense of *referent* that Mr. Ogden and I proposed in *The Meaning of Meaning*, a sense Dr. Stern adopts and uses in a great number of places in this book—it is not easy to do this except in the case of words which are being used in statements which are true. To put the matter simply—when a man is talking about something which *happened* we can sometimes enquire about the something in order to find out more about what he is talking about. But when he is talking about something which did not happen . . . how are we to start identifying it ? This is like the old problem whether phoenixes must, in some sense, *be* if we can mention them. The way out, I still think, is to recognize that " the sense in which a false reference may be said to have a referent must be quite other than that in which a true reference has a referent ". (*The Meaning of Meaning*, 1st Ed. p. 158, later Eds. p. 66.) A false reference on that view, is a complex of true references each referring to its referent but together, as a complex, giving them an arrangement with which fact does not tally. There will thus be a referent (the fact) for true references (notions of

real ' things) in a sense in which false references (notions of fictions, substitute shorthand symbols, etc.) lack one. For some purposes of epistemology and logic, this plan seems to work well, but clearly it is inconvenient (and sometimes worse than this) for some of the purposes of the semasiologist or the lexicographer.

A man who is tracing the history of sense-changes does not want to have to stop to ask, Was this a case of sense or nonsense ? at every step. The point is irrelevant to him. What he needs is a sense for the *referent* in which he can compare what a word was *taken to refer to* on various occasions. And his evidence for this will not come from investigations in the special sciences (physics, theology, psychology, history, etc.) that enquire into the actual facts in the various fields about which all men, without special knowledge, discourse ; it will come from the contexts of the remarks which will show what these remarks were taken by their speakers and hearers to be about.

This, indeed, is, I think, the sense of *the referent* that Dr. Stern really uses on most occasions. But sometimes, apart from this section on Substitution, he uses the other sense :—" When the referent is a material object, it can evidently not coincide with meaning, which is a psychic entity ". (p. 33). And, in general, whenever he is distinguishing between the referent and a subjective apprehension of it, the referent is likely to be used in the other ' epistemological ' sense and difficulty arises. My phrase above, ' what a word is taken to refer to ' is obviously equivocal. (Rapid *fluctuations by permutation* can, I think, be detected as it goes from sentence to sentence. It would be interesting to know whether Dr. Stern would allow this description. Perhaps varying psychic stress on *what* or on *taken* introduce a further factor that would disqualify it as an example of permutation.) Let me try to make plainer what the *referent*, in this sense, would be.

(1) For true and false references indifferently and alike, it would be that which seems to be before the mind—to which for true references something corresponds and for false references nothing corresponds.

(2) I put ' seems to be before the mind ' because of the well-known dangers of this all-but unavoidable metaphor, and to give myself the occasion to remark that such a description is not an analysis to be taken as a serious attempt to say literally what is happening.

(3) It seems wisest—for semasiological purposes—to treat ' what seems to be before the mind ' as a fiction introduced to allow us to keep to our usual syntax in discussing what an idea (a meaning) is *OF* and a reference *TO*.

(4) The referent (as such a fiction) varies with the reference. In this sense to talk about two different references to the same referent would be nonsense. (Evidently with the other sense, in which I can refer in two different ways to my pen, it is not nonsense.)

(5) As a function of the reference it would still be quite distinct from what Dr. Stern calls ' the subjective apprehension ' or ' meaning which is a psychic entity '. It would still act—in its capacity as the correlative of fact for *true* references—as the indispensable third factor in a functional account of the use of referential language.

The use of *referent* in this sense (it is not in any way novel, of course, being only one of the traditional senses of *object* renamed) may be shown, perhaps, most easily in a translation of a paragraph from Dr. Stern.

" When anyone speaks of relativity, the meaning of the word, according to the definition that will be given below, is the speaker's subjective apprehension of the concept of relativity (i.e., of the referent), and it is clear that such apprehension will vary widely for different individuals, as well as for the same individual on different occasions. But the trans-subjective concept of relativity remains untouched by these variations. I therefore make a strict distinction between the concept of relativity as referent, and the various individual ways of apprehending this referent as meanings ". (p. 33). Translated this becomes :—

" When anyone speaks of relativity, the meaning of the word, according to the definition given above, is the speaker's reference to what he takes to be relativity (i.e., to a fiction which would seem to be before his mind as what he supposed relativity to be, if he stopped to reflect upon what he was talking about, a fiction that is a function of his reference) and it is clear that such references will vary for different individuals, as well as for the same individual on different occasions. But that with which his *referent* (i.e., what would seem to be before . . . etc.) would have to correspond if his reference was true remains untouched by these variations. I therefore make a sharp distinction between the set of operations with which Einstein and others have been so successful and the various individual ways of referring to what individuals have taken to be relativity ". It will be evident I hope that this shift in the sense of *referent* is by no means drastic in its effects. In fact, the change in the definition only makes a difference at certain points—notably in the discussion of substitution and adequation. I return then to these. A substitution is a sense change, Dr. Stern says, due to external, non-linguistic reasons—the cause lying " altogether outside language and the speech activity ". I do not think closer analysis will support this. In the case of *ship*, " The new referents were apprehended as

belonging to the category of ships ". No doubt the invention of the Zeppelin (but the imaginative exploits of folk lore and of Jules Verne gave a meaning to *air-ship* and *flying-ship* long before) may be said to be in a remote sense the cause or the occasion for the change, but the process of change itself does lie in the speech activity, and can be traced therein. I suggest that, apart from the misleading effect of the opposition between the referent (old sense) and the subjective apprehension of it, Dr. Stern would have found in regular transfer the explanation of most cases of substitution. When *leaf* (tree) takes the sense of *leaf* (of paper) was there not an 'external, non-linguistic cause' in the introduction of paper? Dr. Stern does not for that reason class it as a substitution. If we treat, as I suggest we must, words like *air ship* just as we treat, for example, *glass-ship*, or *stone-ship*, and say that for semasiological purposes the coming into actual being of Zeppelins no more interferes with the referent than the going out of use of triremes changes the meaning of trireme, then the whole class of substitutions as a separate category of sense-changes, I think, vanishes and we shall treat each case that was formerly a *substitution* as an example of one of the other classes—usually perhaps of regular transfer.

The same redefinition of referent also disposes, I believe, of the paradox about *God* and *atom*. As the references using those words change, so, with the new definition, the referent changes too, and the question, in each case, whether this referent corresponds to a fact will be left to the appropriate authority, as outside the concern of the semasiologist, *as such*, who will, however, in consultation with the specialist, be responsible for deciding when a change of referent has occurred and how it has changed. But the danger that he may forget that to have referential function, to correspond or not, is essential to the referent—and that, as Dr. Stern admirably insists, meaning is not merely mental content—must be borne in mind.

With such a change in the sense of the word *referent*, the theoretical arrangement of Dr. Stern's Seven Classes would, at points, be modified; only a detailed working over of instances could show how much. Probably the changes would be slighter and fewer than at first sight appears. His distinction between objective reference and subjective apprehension would essentially remain as a distinction between the referent (new sense) and those aspects of it (may we say) which are being used in a given meaning. To settle whether or not a referent (as opposed to the choice of its aspects) has changed—which is so often the prime point of difficulty, (e.g., does *love* change its referent in post-Freudian usage; or does *thought* for a behaviorist?)—we must, as before, consider whether the states of affairs with which the referent must correspond if the reference is true are the

same or not. And it will do no harm if we more realize how far we are from being able to answer such questions with justifiable confidence. Are we saying new things about the same old things, or are we talking about quite new things?—that, put simply, is, as a rule, the urgent question.

My chief other point of difficulty with Dr. Stern's Seven Classes concerns his use of the distinction between 'intentional' and 'unintentional' processes. He is himself extremely frank about the difficulties of this distinction. He applies it only to Nominations and Transfers (Classes IV and V) and I connect with this my feeling that his treatment of these types of change is less illuminating and instructive than his discussion of the others. The author seems to be led to use it through a reluctant conviction that " the ultimate causes of speech change, the functions of speech, cannot be utilized as a basis of classification ". His reason is that " any one of them may lead to any type of sense-change ". This reason is, I hope, insufficient. Though we cannot at present align types of sense-change with interventions of the speech functions in any *simple* manner, yet this must surely be one main direction in which to work. As Dr. Stern says, " most sense-changes are the result of the striving of speakers to adjust speech yet more closely to the functions which it has to perform ". One possible principle of classification, then, will attempt to show sense-changes as examples of this striving, arranged according to the mode of combination and precedence of the speech functions that in the given instance are adjusting themselves. Another principle would be Formal merely, concerned with comparatively demonstrable types of change at the service, indifferently, of any combination of speech functions. Dr. Stern's classification is, I think, a combination of both—Formal in places, as in giving a separate class to Shortenings; Functional elsewhere as when he divides figures of speech from intentional transfers (non-figurative) as having emotive, not cognitive causes (p. 293). And the distinction between intentional and unintentional processes seems to introduce yet a third principle of classification. These bogglings on my part display chiefly the fact that the purposes for which Dr. Stern has devised his Classification are not the same as those that a psychologist would be pursuing. A systematic arrangement of linguistic materials, which have already to a large degree grouped themselves by felt similarities, is not the same as an arrangement planned to throw light on mental process. It must be added that Dr. Stern's arrangement will greatly help the psychologist in his different task.

I can point my difficulty by an instance or two. Dr. Stern's classification seems to exclude purely cognitive figures of speech

(p. 283)—dividing them into regular unintentional transfers, e.g., *leg* (of a table) on the one side, and, on the other, into emotive figures —thus turning an emotive function which may so far as I can see be only catalytic (to use a word here which seems to be a case of a cognitive figure of speech) into the prime agent of the change.

Again, in discussing Keats'

" Thou still unravished bride of quietness ",

Dr. Stern appeals to a wish in the poet " not only to present the topic to the listener in an objectively correct way, but also to make the hearer take up a definite attitude towards it, to perceive it in a certain colour, and so on ". For him, *unravished* and *bride* are intentional emotive transfers—the proof of the intentionality being in the user's effort to express his thoughts in a special *form*. This seems to me not to come nearly close enough to the matter. For surely the emotive effects of the words are mediated through quite definite, though subtle, cognitive transfers. Moreover, the doubt that Dr. Stern mentions as to whether this may not be all unintentional (a choice not conditioned by an aforeseen intention but made in the course and as a part of a forming intention) is very troublesome. On p. 285 he really takes intentional so widely (to include under it the whole mass of metaphors, popular or poetical) that the distinction in effect breaks down. I feel that he would have done better, for some purposes, to use instead a distinction he touches on elsewhere in this connection (p. 291) : that between cases where the verbal context guides the transfer as here, and cases, e.g., *leg* of a chair (regular transfer) where no guiding verbal context of equivalent power is required.

The attempt to classify sense-changes by the speech-functions which cause them, requires as a preliminary a more thorough analysis of the speech-functions and of their inter-relations in specific instances. This brings me to the last point at which Dr. Stern's analysis leaves me unhappy. His constitutive speech-functions—the communicative, the expressive, the symbolic and the effective or purposive—overlap or include one another awkwardly. The author is well aware of this and struggles manfully with the difficulty. No treatment of the speech-functions that I know of has yet succeeded in straightening the tangle out. Either Intention (the effective function) or Communication turns into a more general function including the others or acting through them. The trouble, if we knew better what we wanted the functions *for*, would not, I think, be insuperable.

Dr. Stern gives the *word* three constitutive functions only—communicative, symbolic and expressive—for him the effective function (intention) comes in only with *speech*, with the complete

utterance. But in a book which deals only with actual not lexical meanings the restriction does not come in. As part of an utterance the word must take on its effective function. Whether all these four functions are essential, necessarily present in all use of speech, is also doubtful. Swearing often seems to drop the symbolic function and mathematics the expressive function. Similarly most literary use of speech adds functions not universally present—namely the expression of the speaker's attitude to how he is saying what he is saying, how well or ill, easily or not, etc., also of his attitude to his thought, etc., as such, his confidence, or lack of confidence, etc., that he has really thought of what he wanted to think of. By translation into the symbolic function (i.e., explicit statement) these attitudes bring into use words like :—*perhaps, more or less, roughly, as it were, so to speak, unless I am deceived, unmistakably, and so forth.* To distinguish these from attitudes towards referent or towards interlocutor is often surprisingly easy in literary analysis. I mention them here because Dr. Stern seems to have been puzzled (footnote, p. 21) by a fifth function, a fifth component of the general function of communication ; listed in *The Meaning of Meaning.* I should be inclined now to regard it as a group of functions normally present in a complete utterance. He also seems to doubt whether there are non-communicative uses of speech—which doubt Piaget's account of much of the speech of young children might allay.

These notes upon a few points where differences of opinion, or of tactics, call for much further discussion, will not, I hope, give the impression that Dr. Stern's admirable work has been taken as merely an excuse for more wrangling about definitions. It is not odd—whatever the cynic may aver—that the study of meaning should, more than other studies, give rise to mutual misunderstanding among its students. Attempts at fine measurements show best the imperfections of our instruments and the inexactitude of our methods. Dr. Stern has made a memorable advance towards the closing of that gap between philosophy and philology which has been the chief source of futile miscomprehension in these matters. Misunderstandings in future have a better chance than before of becoming what they should be—instructive examples for analysis and comparison. Everyone who realizes how much invaluable material for psychology awaits us in language, properly studied, will welcome this book and join in making its contribution as widely recognized as possible.

I. A. RICHARDS.

The Gestalt Theory

The Gestalt Theory, by Bruno Petermann; translated by M. Fortes (International Library of Psychology, 13/- post free).

It is an experimental fact that in form and colour perception we are immediately aware of 'wholes', or 'shapes', or 'figures' and are unable either introspectively or experimentally to find any evidence for summation effects, except in extremely artificial circumstances. In spite of many attempts, orthodox psychology has as yet been unable satisfactorily to explain this phenomenon, which is obviously of fundamental importance to both theory and experimental practice. Naturally enough, such an important and rapidly advancing field of enquiry is ploughed by many controversies; and of these the most prolonged and most acrimonious have been concerned with the explanations of the facts of perception given by the so-called 'Gestalt' school.

Petermann gives a very critical account of the history, the development, and the import of the gestalt theory of perception. He has devoted himself very largely to the most radical group, Köhler, Koffka, and Wertheimer, because their theoretical structure is now so complete that few fundamental alterations or extensions seem likely to be made. As a history the book is of great value to the student, since no other really comprehensive account has as yet appeared. It is very interesting to trace the gradual development from Wertheimer's first tentative physiological explanation of the 'apparent movement' (ϕ) phenomenon to Köhler's all-embracing theories.

According to Petermann, the problems of reflex and instinct and the special problems of thought psychology do not exist for the gestalt theory. "Since in principle thought and perceptual gestalten are identical, therefore all previously deduced gestalt laws hold good", Koffka maintains. Since, according to Köhler, rationality is self-inherent in the physical and physiological processes of our psycho-physical system, the problem of meaning, of rational relationships, is reduced to being no problem at all. In example after example Petermann shows how every empirical result is made to fit into a very simple theoretical framework. Serious discrepancies are either not noted at all or are casually passed over. But, as he points out, to regard all problems as solved, so that it only remains to amass further experimental facts by way of verification of the theory is an attitude hostile to science; and with this conclusion we must agree.

Somehow, however, the book fails to be as convincing as it might be. Its criticism of the false ontological analogies that underlie Köhler's physiological theories are so often repeated that the reader

eventually begins to experience a resistance against reading further. A far shorter and less reiterative critique would have been much more effective and would have left room for a constructive appreciation of the important and suggestive contributions of men like Müller, Jaensch, Bühler, Krüger and others, who for many years have in their experimental and theoretical works elaborated the view that in perception the primary fact is the perception of wholes and that analytic, or summation, phenomena are subsequent and secondary. Instead, we are given only passing insight into interpretations of experimental results other than those of the gestalt school, and shall have to await the second volume for a wider synthesis. But surely there are signs that even Köhler himself no longer insists with quite so much pontifical finality that everything is explained as soon as the epistemological 'novelty' of physical gestalten 'inherent' in electrolytic or electrostatic distribution systems is apprehended and formulated. In his latest book he does try to look upon the physiological theories about ionic concentrations, short circuits, fields of force and the like as 'working hypotheses'. As such, they occasionally do 'work', in that they lead to new experimental facts about perceptual processes, even though they may be philosophically and scientifically unsound and untenable. And even if the gestalt physics and physiology are the essential credo of the gestalt psychologist's belief, reiterated proof of the futility or unprovability of such belief is as arid and in the long run unsatisfactory as are discussions about religion. However, Petermann does give the gestalt theorists full credit for having enlivened and stimulated modern experimental psychology.

The translation does not always add to the ease of reading this already somewhat unwieldy book. Sometimes retranslation into the German is necessary before the meaning can be understood. Phrases like "a black cross . . . is presented to the regard", "do they (the facts) needs implicate acknowledgement of the gestalt theory?", "the excogitation of the concept of gestalt", "potential discontinuity $(\phi_2 - \phi_1)$" instead of potential difference, "quantity" instead of number, etc., should be noted for a second edition.

O. A. OESER.

THE ORTHOLOGICAL INSTITUTE

A NEW INTERNATIONAL BIBLE

In times like these it is a pleasure to be able to put on record any sort of news about heads which have not gone under water. So in view of the fact that we are writing these notes in Basic, let us first give the Story of Noah as it will be printed in *Stories from the Bible* which will be Number 22 of the Basic books listed on page 208.

Genesis, VI. 1. And when men were increasing on the face of the earth, and giving birth to daughters,

2. The sons of God saw that the daughters of men were beautiful; and they took as wives those who seemed to them the best.

3. And the Lord said, My breath will not be in man for ever. He is only man, and his lifetime will be a hundred and twenty years.

4. There were men of great size in the earth in those days and after, who were the sons of the gods whenever they had connection with the daughters of men. These were the strong men in the days of old, men with a great name.

5. And God saw that the evil of man was great on the earth, and that all his purposes and desires were bad.

6. And he had regret that he had made man on the earth, and he was sad in his heart.

7. And the Lord said, I will put an end to man whom I have made; man and beast, and the thing which goes flat on the earth, and the bird of the air; I am sad that I have made them.

8. But Noah had grace in the eyes of the Lord.

9. Noah was a good man who had done no evil in his generations, and he had the approval of God.

10. And Noah had three sons, Shem, Ham, and Japheth.

11. The earth was bad in God's eyes, and full of wrong-doing.

12. And God saw the earth, and it was evil; every living thing had done wrong upon the earth.

13. And God said to Noah, The end of all living things is at hand; the earth is full of wrong-doing because of them, and I will put an end to them on the earth.

14. Make an ark of *gopher*-wood, with rooms in it, and put *bitumen* inside and out.

15. And this is the way you are to make it: It is to be four hundred feet long, seventy feet wide, and forty feet high.

16. And you will make a roof to the ark, a foot wide at the top; and the door of the ark you will put in the side; with lower, second, and third floors you will make it.

17. And I, even I, will send the waters on the earth, for the destruction of every living and breathing thing under heaven; and everything which is on the earth will come to an end.

18. But with you I will make an agreement; and you will come into the ark, with your sons, and your wife, and your sons' wives.

19. And of every living thing there is, you will take two of every sort into the ark, and keep them with you; they will be male and female.

20. Of birds after their sort, and of cattle after their sort, of everything which goes flat on the earth after his sort, you will take two of every sort and keep them living.

21. And make a store of food of every sort for yourself and for them.

22. And Noah did everything which God said he was to do.

VII. 1. And the Lord said to Noah, Take all your family and go into the ark, because you only have been good in my eyes in this generation.
2. Of every clean beast you will take by sevens, the male and his female; and of the beasts which are not clean, two, the male and his female.
3. Of the birds of the air by sevens, male and female, so that their seed may still be on the face of all the earth.
4. And in seven days more I will send rain upon the earth, forty days and forty nights; and I will put an end to every living thing which I have made on the face of the earth.
5. And Noah did everything which the Lord said he was to do.
6. And Noah was six hundred years old when the waters came over the earth.
7. And Noah went into the ark, and his sons and his wife, and his sons' wives with him, because of the waters.
8. Of clean beasts, and of beasts which are not clean, and of birds, and of every thing which goes flat on the earth,
9. There went in two and two to Noah in the ark, the male and the female, as God had said to Noah.
10. And after seven days the waters came over the earth.
11. In the six hundredth year of Noah's life, in the second month, the seventeenth day of the month, all the fountains of the great deep were broken up, and the windows of heaven were open.
12. And the rain was upon the earth forty days and forty nights.
13. In the same day Noah, and Shem, and Ham, and Japheth, the sons of Noah, and Noah's wife, and the three wives of his sons with them, went into the ark;
14. They, and every beast after his sort, and the cattle after their sort, and everything which goes flat on the earth, after his sort, and every bird after his sort, every bird of every sort.
15. And they went in to Noah in the ark, two and two of all flesh, in which is the breath of life.
16. And they which went in were the male and female of all flesh, as God had said to him: and then the Lord sent Noah in, and the ark was shut.
17. And the waters were forty days upon the earth; and they were increased, and the ark was lifted up, so that it was high over the earth.
18. And the waters overcame everything, and were increased greatly upon the earth; and the ark went upon the face of the waters.
19. And they overcame everything upon the earth; and all the high hills under the heaven were covered.
20. The waters went up fifteen feet over the mountains.
21. Every living thing moving on the earth came to an end—the birds of the air, the cattle, every beast, and everything which goes flat on the earth, and every man;
22. Of things on the dry land, everything in which there was the breath of life came to an end.
23. And every living thing which was upon the face of the earth came to destruction, man, and cattle, and the things which go flat on the earth, and the birds of the heaven; they came to an end on the earth, and Noah only was still living, and they who were with him in the ark.
24. And the waters were upon the earth a hundred and fifty days.

VIII. 1. And God kept Noah in mind, and every living thing, and all the cattle which were with him in the ark; and God sent a wind over the earth, and the waters went down.
2. And the fountains of the sea and the windows of heaven were stopped, and the rain from heaven was kept back.
3. And the waters went back from the earth day by day; and at the end of the hundred and fifty days the waters were gone from the earth.
4. And in the seventh month, on the seventeenth day of the month, the ark came to rest upon the mountains of Ararat.
5. And the waters went down every day till the tenth month: in the tenth month, on the first day of the month, the tops of the mountains were seen.
6. And at the end of forty days, Noah put open the window of the ark which he had made.
7. And he sent out a raven, which went this way and that till the waters had gone from off the earth.

8. Then he sent out a dove, to see if the waters had gone down on the face of the earth ;
9. But the dove saw no rest for her foot, and she came back to him into the ark, because the waters were on the face of all the earth ; then he put out his hand, and took her into the ark.
10. And he was there another seven days, and again he sent out the dove from the ark ;
11. And the dove came in to him in the evening, and in her mouth was an *olive*-leaf newly broken, so Noah was certain that the waters had gone down on the earth.
12. And he was there another seven days, and sent the dove out again ; but she did not come back to him any more.
13. And in the six hundred and first year, in the first month, on the first day of the month, the waters were dry on the earth ; and Noah took the covering off the ark, and saw that the face of the earth was dry.
14. And in the second month, on the seven and twentieth day of the month, the earth was dry.
15. And God said to Noah,
16. Go out of the ark, with your wife, and your sons, and your sons' wives.
17. Take out with you every living thing of all flesh which is with you, birds, and cattle and everything which goes flat on the earth ; so that they may have young in great numbers, and be increased upon the earth.
18. And Noah went out, and his sons, and his wife, and his sons' wives with him.
19. Every beast, everything which goes flat on the earth, and every bird, after their sort, went out of the ark.
20. And Noah made an altar to the Lord ; and took one of every clean beast, and of every clean bird, offering burned offerings on the altar.
21. And a sweet smell came to the Lord, and he said in his heart, I will not send a curse again on the earth because of man, though the thoughts in man's heart may be bad from his early days ; and I will not again put an end to every thing living, as I have done.
22. While the earth goes on, seed time and the cutting of the grain, cold and heat, summer and winter, day and night, will not come to an end.

IX. 1. And God gave Noah and his sons a blessing, and said to them, Have increase, and make the earth full again.
2. And the fear of you will be upon every beast of the earth, and on every bird of the air, on everything which is moving on the earth, and on all the fishes of the sea ; into your hand are they given.
3. Every moving and living thing will be your food ; even as I gave you the green plant, so now I give you all things.
4. But flesh with life-blood in it you are not to take for food.
5. But of your life-blood an account will be taken ; from every beast will I take it, and from every man's brother will I take it.
6. Whoever takes man's blood, by man will his blood be taken ; because God made man in his image.
7. Have increase ; have sons and daughters in great numbers on the earth.
8. And God said to Noah and to his sons with him,
9. As for me, I make an agreement with you and with your seed after you ;
10. And every living thing which is with you, the birds, the cattle, and all the beasts of the earth with you ; with everything which came out of the ark.
11. I make an agreement with you that all flesh will not be cut off again by water ; and the waters will not any more make a destruction on the earth.
12. And God said, This is the sign of the agreement which I make between me and you and every living thing with you, for all generations to come :
13. I put my bow in the clouds, and it will be a sign of an agreement between me and the earth.
14. And it will come about, when I send clouds over the earth, that the arch will be seen in the clouds ;
15. And I will keep my agreement in mind, which is between me and you and every living thing of every sort ; and the waters will not again make a destruction of all flesh.
16. And the bow will be in the clouds ; and my eyes will be upon it, so that I may keep in mind the agreement which is for all time between God and every living thing of every sort which is on the earth.

This is not only a good advertisement for the book itself, which comes out on July 15th, but it makes possible some comparisons which are of special interest for the theory of language. The stories in this book are part of the complete Basic Bible, on which work was started in 1930. The selection has not been made from any special point of view, or with any purpose other than that of giving the public some examples of the value of Basic in this important field.

As a general rule the words of the King James Bible have not been changed where they are good Basic, though more than 80% of the 6,000 there used[1] have been taken out.

It would naturally not be wise for the learner to make use in everyday talk of all the turns of language in these Bible stories. There has been a certain loss of the power of simple statement in the last three hundred years, and it is even possible that, with the help of Basic, we may get back to some of our earlier forms of word-music. Current American tendencies are here frequently working in the right direction.

The chief purpose of a Basic Bible is, however, not for English readers. In the year 1932, more than 25,000,000 Bibles (or books of the Bible) were put out by three British Societies only. Of these, 3,000,000 were printed for the normal market in England ; so that some 20,000,000 went to other countries where the learning of 6,000 words and their uses takes anything from five to ten years. From this it may be judged how much time is wasted on language work if the Basic Bible is able to take away 5 words out of every 6, and still be clear.

The learning of the Basic system for reading purposes takes only a week or two ; fifteen minutes with a phonograph record gives the sounds of all the words for international use. So that it would be quite possible for Basic to become the international language through the Basic Bible.

That, however, is only one side of the picture. In addition, there is the value of Basic as a guide to those who have to put the Bible into other languages ; and specially into the languages of Africa and the East, which are so very different in structure from those of Europe.

In other words, the Basic Bible is not simply one more attempt to get something nearer to the language and thought of AD 1933 than the great work of 1611. This will be clear from almost any part of *The Bible, an American Translation,* made with great care and learning under the direction of Professors J. M. Powis Smith and Edgar J. Goodspeed (Chicago, 1931).

[1] A. S. Cook, in *The Authorized Version of the Bible and its Influences* (pages 65-6), gives the number of different words in the O.T. as 5642, and in the N.T. as 4800.

When Boaz (*Ruth*, IV, 7) becomes the owner of Naomi's field, the American Bible says :—

" Now this was the ancient custom in Israel : to validate any transaction in the matter of the right of redemption and its conveyance, the one pulled off his sandal, and gave it to the other ; this was the manner of attesting in Israel."

Here is the same verse in Basic :—

" Now in earlier times this was the way in Israel, when property was taken back or the owner was changed. To make the exchange certain, one man took off his shoe and gave it to the other ; and this was a witness in Israel."

Men of letters may have their doubts about the different values of the two examples ; and here is the King James version :—

" Now this was the manner in former time in Israel concerning redeeming and concerning changing ; a man plucked off his shoe and gave it to his neighbour and this was a testimony in Israel."

Those whose business it is to put such material before the Zulus or the Chinese, or even before young persons in England and America, will at least be interested in a serious attempt to make the Basic Bible as good as possible. And how serious the undertaking is may be judged by the fact that even the present stories might not have been printed for some years if it had not been clear that others would take the field, unconscious of what was being done.

Basic, as a system, is limited with great care to 850 words. Of these, 600 are ' nouns ', 150 are ' adjectives ' and the other 100 (only 18 of which are ' verb '-forms) do the rest ; so that everything may be said in a natural way from the point of view of normal English. For Science, there are 100 general words, and 50 words for any branch which is more or less self-supporting, to take the expert to a level where international words are ready to hand ; so that with 1000 words any branch of knowledge may be fully covered, though the public is still only interested in 850 of them. Looked at in this way, the Bible is equally part of a wider field in which belief and feeling have their place. The general public does not normally make use of the language of religion or the language of verse in going about its business ; so our 100 general words will be those of most use for the *reading of verse* in all its forms, and our 50 special words will be those of most use for the special purpose of *reading the Bible.*

It will be noted that we say *reading* ; and from the point of view of the learner this is important. If he has a good working knowledge of the 850, he has only to get the sense of the 150 other words when he comes across them (in the process of reading almost 1,000,000). That sense is generally given by the rest of the verse, and the sound of such words is frequently more important than the sense, so that an hour or two will be quite enough for any ' learning ' which may be necessary.

And here we come to another point which makes this sort of writing different from any other in which Basic will normally be

used. For more than 300 years certain forms of words have been part of the inner structure of every English mind Even a small change in the rhythm of these words comes as a shock to millions of readers—though others may have a feeling that the change is better.

When Chateaubriand put into French Milton's lines,

> and Siloa's brook that flowed
> Fast by the oracle of God,

he gave us "coulait rapidement". So when, in the American Bible,

> "a Canaanite woman came out and screamed 'Son of David, take pity on me, sir! My daughter is dreadfully possessed of a demon'"

there is some doubt if even a Chateaubriand would have been troubled by what is probably a strange effect to most English ears. The English reader, then, is requested to be as internationally-minded as possible in judging this latest attempt in a new form of writing.

A Basic Bible is certainly not a simple undertaking. When King James said, in 1604—"So far I have not seen a Bible well put into English," he had before him the work of Wyclif and Tyndale, of Coverdale and Matthew, the Bishops' Bible and the Douay Bible. Three years were needed for the selection of experts, 54 in number, of whom 47 took part in the work for three years more, in six companies. Every company had meetings from time to time to make comparisons before sending the outcome to other companies; and at the last a small Committee gave their approval to every word.

Even then, changes were quickly seen to be necessary. In 1645, and again in 1653, requests were made to the House of Commons for something more in harmony with the knowledge and language of the time; and in 1870 the Convocation of Canterbury itself undertook a comparison of all readings. Two Committees were formed, one in England and the other in America, and after 14 years the Bible was again put before the public, in the 'Revised Version', with no less than 5,000 changes in the New Testament only. Most of these changes are not important, but they make clear the amount of thought which would have to go to the making of a Bible based on 850 simple words.

If, however, the Basic Committee is able to get the necessary support for a three year expansion of its work, the apparatus is ready to hand. A great Library has been formed with all the necessary material; and the Basic Bible might well become the International Bible—international for the first time in history, a Book for young and old, East and West. It would be clear to the man of little education; it would be of interest to the man of letters; it might even be of value to the worker in Anthropology. And so, in the truest sense, the days of Babel would be no more.

BASIC FOR SCIENCE

Though the work necessary before *Basic for Psychology* goes to the printer is still far from complete, the back of the undertaking will certainly be broken before the end of 1933. Because of the New York Conference, *Basic for Economics* had to be got out of the way first; and with the help of Professor Sargant Florence, Miss Lockhart has made herself responsible for taking the book through its last stages before sailing to America.

America is still the chief hope of all who are interested in the future of Science from an international angle. The first need of Basic in most branches of science is for an expansion of such work as is now being done by the American Standards Association,[1] The American Institute of Electrical Engineers,[2] and the National Conference on Nomenclature of Disease.[3] Every word which gets fixed for international purposes makes the writing of Basic for Science a simpler business, which is a strong argument for a new attack on the question as early as possible.

This need for a quicker adjustment to changing conditions is happily becoming clear to an increasing number of men of science in high positions. In the last six numbers of *Progress* (produced by the Association of Scientific Workers, London), Basic English has been given an important place; and its value for Science papers will probably be under discussion at the September Meeting of the British Association, where Professor Holman, of the Royal School of Mines, is among those interested in taking our work forward to a point where less time may be wasted in science by men of letters or by the discussion of language systems which do not take into account of the use of English in Germany, Scandinavia, India, and the Far East. In this connection a book which Dr. I. A. Richards is now getting ready (in Basic), *Basic Rules of Reason*, may be noted. It will certainly be out before December.

ROUND THE EARTH WITH 850 WORDS

Naturally, Basic will not be starting on its journey round the Earth before the right teaching material has been put into other languages. Of the 22 Basic books now on our list, 18 are *in* Basic, the other four (*Basic English*, *The Basic Vocabulary*, *The Basic Dictionary*, and *Debabelization*) not being designed as international

[1] The International Standards Association, formed in 1929, has now the backing of some 20 countries, but even the American organization has so far done very little about language.

[2] Report on Proposed American Standard Definitions of Electrical Terms (1932).

[3] Dr. H. B. Logie's *Standard Classified Nomenclature of Disease* has been supported by The Commonwealth Fund, New York.

Readers. *The Basic Words* is in Basic and, together with the *ABC*, gives a complete key for anyone who has a knowledge of German or French (the parallel German and French words being printed for all senses), or who will take the trouble to make use of a normal Dictionary. But some book based on the *ABC* is clearly necessary in every language, as a first step; so that the order in which our representatives are generally requested to put the system before their different countries is something like this:—

1. First Steps based on the *ABC*.
2. The *ABC* as a guide for teachers and private persons; in the language in question.
3. *Basic English*, as a general account of the system.
4. *The Basic Words*, with detailed examples of their normal uses, and of the most important special senses and expansions; in the other language.
5. A parallel to *The Basic Dictionary*, putting the 7,000 commonest words of the other language into Basic.
6. A Radio Learner's Guide.

The way is then open for school books of all sorts, and for keys to the Readers, such as *Julius Caesar*, *The Gold Insect*, *Stories from the Bible*, and so on, of which 20 or 30 are now waiting only for the development of an international market.

Which country will be first in the field with at least 4 of the most necessary units is still not certain. Denmark, Poland, Sweden, Czechoslovakia, and Germany are all well forward with the work. Poland has its *Basic News*, under the direction of Professor Kospoth-Pawlowski of Wilno, who is working in harmony with Professor Massey of Poznań, where the *ABC* is being put into Basic. In Denmark, Mrs. Kamma Taylor is getting ready a step by step guide to Basic, based on the Danish form of the *ABC*—which is now almost complete, and will make it possible for *Basic Engelsk for Danske*, by Mr. Boisen and Mr. Christensen, to be used with profit as an addition to school work. In Japan, Mr. Takata and Professor Okakura will not be long in getting their material in order, with the help of Mr. Daniels at Otaru and the support of the Kyoto *Basic Monthly*. Madame Litvinoff is making herself responsible for the development of the system in the U.S.S.R.—her special interest being to make Basic a pleasure for the young by the use of verse. Ma Than É, now back in Rangoon, is getting details fixed up with her Burmese friends in education circles; and so on.

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