UNIVERSAL
LIBRARY

OU_152522

UNIVERSAL
LIBRARY

OSMANIA UNIVERSITY LIBRARY

Call No. 137 C18H. Accession No. 18081

Author Campbell, C.M.

Title Human ... and environ-
ment

This book should be returned on or before the date last marked below

HUMAN PERSONALITY AND THE ENVIRONMENT

THE MACMILLAN COMPANY
NEW YORK · BOSTON · CHICAGO · DALLAS
ATLANTA · SAN FRANCISCO

MACMILLAN & CO., LIMITED
LONDON · BOMBAY · CALCUTTA
MELBOURNE

THE MACMILLAN COMPANY
OF CANADA, LIMITED
TORONTO

HUMAN PERSONALITY
AND
THE ENVIRONMENT

BY

CHARLES MACFIE CAMPBELL

Professor of Psychiatry, Harvard Medical School

NEW YORK
THE MACMILLAN COMPANY
1934

Copyright, 1934, by
THE MACMILLAN COMPANY.

All rights reserved—no part of this book may be reproduced in any form without permission in writing from the publisher, except by a reviewer who wishes to quote brief passages in connection with a review written for inclusion in magazine or newspaper.

Set up and electrotyped.
Published October, 1934.

SET UP BY BROWN BROTHERS LINOTYPERS
PRINTED IN THE UNITED STATES OF AMERICA
BY THE FERRIS PRINTING COMPANY

PREFACE

THIS book presents the substance of six lectures delivered before a lay audience at the Lowell Institute, Boston, in February, 1933.

The lectures attempted to give a more vivid and precise meaning to the word personality, and to stimulate the interest of those present in the driving forces of the individual life, but made no pretence to discuss exhaustively and systematically man and his destiny. The presentation was made as concrete as possible; specific examples of the individual in action were preferred to a discussion of general principles, biographies were borrowed from freely. Thus this book is somewhat a thing of shreds and patches. The patching may require apology; the shreds, however, are taken from the most valuable fabric that man deals with, the living fabric of the human personality. I should be glad to think that the shreds may have stimulated some to a fuller study of the total fabric, through which alone the structure of the world as a system of values and of strivings is revealed.

The book makes no claim to originality; for the collection of the shreds I am indebted to many colleagues, but especially to the devoted colleague whom I have the honor to call my wife.

C. MACFIE CAMPBELL.

Cambridge, Mass.

ILLUSTRATIONS

FIGURE		PAGE
1.	Section through the head showing the pituitary gland at the base of the skull . . . . . *facing*	40
2.	The adrenal glands . . . . . *facing*	44
3.	Thyroid gland in relation to the larynx and to the trachea, viewed from in front . . . . *facing*	46
4.	Diagram of the autonomic nervous system . . *facing*	50
5.	Dissection of the brain showing the optic thalamus *facing*	54
6.	Brains of apes compared with the human brain *facing*	64
7.	Map of the various specialized areas of the brain .	67
8.	Individual in the earliest stage, the fertilized egg of the starfish	74
9.	Structure of chromosomes as seen under the microscope	77
10.	Diagram to illustrate the arrangement and action of the genes in the genetic system	78
11.	Table showing the inheritance of exceptional musical talent in the Bach family	82

HUMAN PERSONALITY AND THE ENVIRONMENT

ACKNOWLEDGMENTS

I take this opportunity to thank for their courtesy the many publishers who have freely granted permission to make use of quotations and illustrations from their publications.

CONTENTS

PAGE

PREFACE v

CHAPTER

I. THE RELATION OF THE PERSONALITY TO THE PHYSICO-CHEMICAL ENVIRONMENT. 1

The personality as the objective behaviour and inner experience of the individual organism. The special material and methods of the physician. The influence of the physico-chemical environment on behaviour and inner experience. Reaction of the personality to deprivation of oxygen; data from mountain-climbers and balloonists; reaction of the personality to deprivation of water, to deprivation of food or special components. Deprivation of food as an ascetic procedure. Reaction of the personality to special substances; mescalin, nitrous oxide. Reaction to various physical agents; sunshine, humidity, wind, climate in general.

II. THE PERSONALITY AND THE COMPONENT STRUCTURES OF THE ORGANISM 38

The mechanisms for maintaining the internal dynamic equilibrium of the organism. The influence on the personality of the endocrine glands; the pituitary gland, the adrenal glands, the thyroid gland, the parathyroid glands, the sex glands. The feeling-tone of personal experience; the depression of John Stuart Mill, of A. C. Benson. Tentative views on the relation of the feeling-tone to the rôle of the autonomic nervous system. Pleasure and pain; the rôle of the optic thalamus. The emotions and their physiological mechanisms. The influence on the personality of the organs serving the life of external relations; the special senses, the central nervous system, the motor equipment.

III. THE DEVELOPMENT OF THE PERSONALITY. 72

The personality begins as a fertilized ovum; the genetic qualities of this single cell form the foundation of the personality. Intra-uterine, natal influences. The personality of the infant; individual variations in emotional reactions, in self-assertiveness, in pleasure-seeking. Importance for the manifestation or development of the personality of the functions of nutrition and elimination. Early interest in

CHAPTER PAGE

sexual matters; its importance for the personality. Repression; persistence of the repressed. Development of the relations between child and parents, and of social adaptation. The spontaneous views of the child about the world. Childhood phantasies. Persistence in the adult personality of primitive and childhood views.

IV. THE PERSONALITY, ITS DYNAMIC SYSTEMS AND THEIR INTEGRATION 125

Historical presentations of various types of personality. Analysis of selected traits of the individual personality. Variations in the endowment of energy, in the indulgence of the appetites, in the vividness of the emotional life; variations in the capacity for friendship, in suggestibility and personal influence. The unconscious; the germination of constructive activity in the unconscious. The rôle of phantasy. The integration of personal factors.

V. THE PERSONALITY AND SOME OF ITS TASKS 170

The tasks which confront the personality. The maintenance of its integrity; Captain Scott, Wagner, Shelley. The maintenance of equilibrium between conflicting internal tendencies. Compensation for intrinsic and extrinsic handicaps: Helen Keller, Theodore Roosevelt, Byron, Captain Scott, Michel Karolyi, Robespierre, Schopenhauer. The conflict between the sex urge and the social response; repression, substitution, sublimation, phantasy. Marriage; the importance of various repressed or unrecognized factors. The personality and relations within the family. Child-parent relations: Bismarck, Schopenhauer, Samuel Butler, Stendhal. The personality and adaptation to the group.

VI. THE PERSONALITY AND THE TOTAL SITUATION 205

The human personality capable of self-expression, not merely a reactive mechanism. The ways in which the individual personality deals with its need for self-expression and with the total situation. Examples of those who lay most emphasis on æsthetic values: Beethoven, Turner, Shelley. Faraday and Darwin; the patient investigators. Father Doyle, Santa Teresa, Count von Zinzendorf; the mystics with emphasis on the inner life of feeling. Saint-Simon and Auguste Comte; the social reformers. Schopenhauer; emphasis on the intellectual grasp of experience.

INDEX 249

CHAPTER I

THE RELATION OF THE PERSONALITY TO THE PHYSICO-CHEMICAL ENVIRONMENT

THE human personality of those with whom we come in contact in the everyday affairs of life, in the home, at work, in the wider social environment, has a profound influence on the happiness and on the efficiency of each one of us, yet how little we know of the infinitely complicated and mysterious system of forces called the personality! How little we know of the personality of our neighbor, how little we know of our own personality! The débutante and the preacher, the salesman and the artist, the gossip and the foreman, alike take stock of the individual differences in human personality as expressed in physical appearance, behavior, special skill, inner experience, ethical code, but they do so in an instinctive and intuitive way with little interest in a penetrating and systematic analysis of personality.

Such a systematic study cannot safely be dispensed with by anyone engaged in the direction of man in his social relations. The teacher in the school, the executive in factory, store or office, the social worker dealing with dependents and delinquents, the lawyer dealing with the social adjustment of his client, the physician dealing with the inner conflicts of his patient, the publicist, the

statesman, the philanthropist, the reformer will each perform his task more adequately, if he understand the driving forces which make the individual what he is, and the forces in the environment with which he has to cope. The understanding of personal factors may furnish the key to a political situation, may solve a labor problem in the factory, may bring life into the atmosphere of the schoolroom.

It is not necessary to embroider on the theme that the proper study of mankind is man; one may not share the contempt of the philosopher Comte for all studies which do not have a demonstrable relation to the happiness of mankind, and may pay tribute to the pursuit of knowledge for the sake of knowledge as to the pursuit of art for art's sake, but the importance of fundamental knowledge of human nature for the satisfactory conduct of human affairs, both in their individual and social aspect, is becoming increasingly apparent.

The study of the human personality involves the attempt to penetrate beneath surface appearance and conventional expressions to the dynamic factors of human nature, to reach the real individual beneath the social mask. The term personality has a certain social reference, it signifies the individual in his reaction to his environment as well as in his inner experience. It is derived from the *persona* or mask of the actor, but it differs from the *persona* in not being an alien and static structure; it is not a pattern of reaction consciously adopted for a specific purpose, and with little relation to the actual constitution of the individual. It is not only toward

his fellows that the individual presents a mask; his official view of himself may fail to penetrate the surface and to do justice to the forces below. The individual may see himself as a contented and honest and courageous individual, but when with effort he penetrates beneath the mask he may find latent discontent, shrinking timidity, second-rate and evasive ways of meeting the challenge of life. Those who spend some time in courageously reviewing the driving forces of their lives seldom fail to see a very great contrast between their earlier impression of themselves and the later picture of the real individual behind the mask.

Our present use of the term personality lays less emphasis on appearance than on reality; the personality is the expression of the total forces of the individual, it is the product of their integrated activity, it is the man in action as seen by the outsider and known to himself.

The behavior of a man is the rôle which a complicated organism plays in the web of circumstance of which he forms an infinitesimal node, by which he is molded, to which he makes his individual contribution. The detailed workings of this organism, the structure of the web of circumstance, the values involved in the personal contribution, each forms a topic of considerable magnitude, presents a field of specialized investigation.

To understand the workings of the organism and the basal processes of life one must rely on the labors of the physicist and the chemist, the biologist and the psychologist. The sociologist and the anthropologist can throw much light on the cultural forces in the environment,

forces which are as real as are its physico-chemical properties. With regard to the values involved in human life the accumulated wisdom of many distinguished thinkers throughout the ages, who have made this their chief preoccupation, is at our disposal.

The physician has his own modest contribution to make to the vast issues involved in the discussion of the human personality and the environment. His work brings him into close contact with the stuff of human life and its environment. The time has passed when the physician could confine himself to the study of disease and of the impersonal processes involved in that concept; he has come to realize that his problem is not the symptom nor the disease, but the patient, the sick person. He can no longer look upon the patient as the casual container of an interesting chemical situation, nor the chance battlefield of an obscure bacteriological combat; he must look upon the patient as a person, he must pay due attention to the complexity of human nature and to the demands made upon the individual by the immediate environment and by the broad background of his existence. A simple symptom such as headache, indigestion or palpitation, may prove to be an indication of the fundamental difficulty of a human being in harmonizing his inner needs and in adjusting himself to the cultural situation. On the other hand, a feeling of discouragement, an attitude of suspicion, grandiose claims, a morbid belief in hostile influences may be the result of disturbed chemical or physiological processes, or of structural damage to the central nervous system.

The organism is a highly integrated unit and responds with subtle changes at many levels to the various demands made upon it at any one level; the stress of a psychological situation mobilizes complicated biochemical and physiological processes, while changes in the chemical interchange between organism and environment may influence emotions, alter the direction of thought, modify the code of values.

The physician is forced to live an amphibian existence, now dealing with chemical equations, physiological reactions, structural damage, again dealing with emotions, imagination, intellectual elaboration, the striving for values. In his practical rôle he may modify diet, prescribe antitoxin, encourage confession, supply information, discuss occupation, recommend a complete change of environment. The philosopher may discuss systems and codes without paying much attention to the digestive system of the individual thinker; the chemist or the physiologist may discuss the intimate mechanism of nutrition while ignoring the personal troubles or the philosophy of the digester. The physician has before him a person in trouble, and no matter whether the presenting symptom be gastric discomfort or a twisted philosophy of life, his task forces him to scrutinize all the various systems which are integrated into the total personality.

The consulting room is an unusually favorable laboratory for the study of the human personality, both from the point of view of method and of material. Not only must the basal physiological mechanisms of the individual be thoroughly investigated, in addition all other factors

involved in the personality must be reviewed, all relevant factors in the life situation must be scrutinized and evaluated. In the consulting room, where issues of life and death are involved, the usual social conventions are out of place, honesty is a primary condition, appearance must give way to stark reality, reserve and prudishness must go, factors disowned and repressed must be brought to light, pleasing formulations must be replaced by the demonstration of dynamic relations.

We are not concerned here with the connection between repressed factors and specific symptoms, nor with the benefit derived by the patient from this investigation which is at the same time a therapeutic procedure. What concerns us here is the fact that during this procedure the physician gets a special insight into the structure of human personality and has an opportunity of revealing the presence of unsuspected forces, which can hardly be reviewed in a psychological laboratory or other environment.

The material reviewed in the consulting room represents experiments of a much more drastic type than any to which the investigator dare submit human material. Instinctive dysharmonies, bereavement, family discord, spiritual starvation, thwarted hopes, are reagents too potent for use in the psychological laboratory but are familiar tests in that of nature; the reactions to these tests, when studied in detail by the physician, may furnish a useful supplement to our knowledge of the human personality derived from other sources.

To do justice to the fulness of human nature, to the

feelings, the thoughts, the strivings of man, his experience must be dealt with under various categories, and there is a danger that we look upon these categories as representing separate modes of existence. Matter, life, mind may be taken for independent entities instead of mere symbols useful in dealing with aspects of the total fact of being. We tend to contrast in a rigid way the animate with the inanimate, the physiological with the psychological, the blind force of inanimate nature with the conscious purpose of man, and thus arise unnecessary antagonisms, meaningless problems, empty discussions. The formulation of a hysterical disorder in physiological terms is very different from that derived from a psychological analysis, but each is valid within its limits and is required to supplement the other.

The human personality reaches into the realm of abstract thought and high purpose and has its foundations in the general structure of the world of our experience. At one level the system of forces constituting the personality is in perpetual interchange with the system of forces of the material environment, so familiar in one way, fundamentally so obscure; at another level the personality is in constant interplay with the complex forces of the cultural environment.

Some are fascinated by the precision of method of the exact sciences and by their practical contributions to human comfort and efficiency, and look to them for mastery of the universe of human experience. Their mastery, however, can only be within the limits of their special categories, as the man with sixpence in his pocket is master

of the world, but only to the extent of a sixpence. The knowledge of the personality in its relations with the cultural environment may be much less precise than our knowledge of the chemical interchange between the organism and the environment, or of the physiological reactions of the organism to various stimuli; the lack of precision is inherent in the very object of study and in no way detracts from the importance of what we have learned by appropriate methods with regard to the conduct of life, the inner experience of man and the goals toward which he strives.

The piety of the early nineteenth century saw in man's environment striking evidence that it had been specially designed for the support of human life and for the development of man's physical, moral and intellectual constitution.[1]

The biochemist of the twentieth century,[2] who comes to his study of the environment without the conscious orthodox prepossessions of the authors of the *Bridgewater Treatises,* but equipped with the precise knowledge of modern science, points out the striking fitness of the environment for the support of life. Without the unique physical and chemical qualities of hydrogen, oxygen, carbon, water and carbonic acid, life as we know it would be hardly conceivable.

The study of the organism shows us that the chemical

[1] *The Bridgewater Treatises on the Power, Wisdom and Goodness of God, as Manifested in the Creation.* Philadelphia, Carey, Lea & Blanchard, 1836.

[2] Henderson, Lawrence J.: *The Fitness of the Environment.* New York, The Macmillan Company, 1913.

constituents of the environment pass in and out of the living tissue, that they may be merely loosely bound and speedily utilized as fuel or may be stored up as reserves or they may be knit up into the very texture of the living tissue, the fullest expression of which is in the intellectual, artistic and ethical activities of man. This quality of the chemical elements of the environment, that they enter into and constitute essential components of intellectual, artistic and ethical systems, is not one which is referred to in the abstract researches of the chemist or the physicist, but it is one which must not be omitted when we come to deal with the concrete world of our actual human experience.

With these general considerations as a warning against interpreting in the light of a naïve materialism the obvious facts of the dependence of the personality on the physico-chemical environment, we may review some simple examples of this dependence.

For its growth, maintenance, inner experience and external expenditure of energy, the organism requires a continuous supply of energy and material in the form of oxygen, water, salts, carbohydrates, proteins, fats, vitamins (complex substances, some of unknown chemical composition). The inadequate supply of these factors or the introduction of unsuitable components may not only disturb the basal functions of the organism but may modify mood and thought and code of values. To illustrate this, one may utilize the experiences of those who have suffered from deprivation of oxygen or of food, and of those who have taken certain drugs.

Paul Bert [3] has accumulated a mass of information on the effect of deprivation of oxygen on the individual, and from his material one may pick out some facts relative to our topic. The experiences of various explorers at different altitudes, which he records, indicate that the lowering of barometric pressure with the resultant deficiency of intake of oxygen not only interferes with the simpler vital functions and with muscular activity, but also modifies the mood and general outlook of the individual. Lister Maw, in 1827, at a height of 2,190 meters in the Andes notes that "the rarification of the atmosphere tended greatly to elevate our spirits." Poeppig, during explorations lasting from 1827 to 1832, notes at the height of 4,350 meters at Cerro de Pasco in Peru a very definite feeling of anxiety and discouragement: "As during violent sea-sickness, one's spirits are lowered, the senses are dulled, disgust and hypochondriacal discouragement transform in an extraordinary manner the most robust, the most vivacious, the most courageous. . . . It is as if one were shut in a chamber without air, and the feeling of anxiety is increased by the failure of all the attempts which are made to triumph over the loss of one's forces. . . . The anxiety only diminishes during absolute rest; but the conviction of the inevitable necessity of the disorder, the incapacity for every intellectual effort, the feeling of the loss of time bring on bad humor and discouragement so that a vigorous man conducts himself like a small child."

[3] Bert, Paul: *La Pression Barométrique.* Paris, G. Masson, 1878.

Meyen, in 1831, ascended the volcano of Arequipa (5,640 meters) and, after referring to certain physical reactions, states "much more dangerous are the affections of the brain that are manifested again by nausea, fainting and by a particular state akin to intoxication and even by fury."

Laverrière, in 1857, ascended Popocatepetl (5,280 meters); he lay down exhausted within the crater, "notwithstanding my lassitude a singular agitation took possession of me. It was a feeling of anxiety, disquiet and dread which did not permit me to remain at rest, and nevertheless when I wished to move my forces betrayed me and refused me almost every service."

M. de Saussure, in July, 1788, at the height of 3,360 meters in the Alps (Col du Géant) notes: "It seemed to us that we had a more irritable type of reaction, that we were more subject to impatience and even to movements of anger. . . . In addition it seemed to both my son and myself that in our work and in our observations relevant to physical conditions we had our mind definitely more clear, more active and less easily fatigued, I will even say more inventive than on the plain."

While a Scotch traveler Auldjo, in 1827, at the height of 4,200 meters in the Alps felt himself completely exhausted, downcast, discouraged, the naturalist Ramond making the first ascent of Mt. Perdu (3,350 meters) in the Pyrenees was rather stimulated by the conditions: "We breathed without trouble this air so light and which was not sufficient for the respiration of others."

He experienced an acceleration of the pulse which he refers to as a nervous fever: "far from causing discouragement, it seemed that it sustained my forces and excited my spirits. I am persuaded that we often owe to it that agility of the limbs, that finesse of the senses, that élan of thought which suddenly dissipate the weight of fatigue and the apprehension of danger. Perhaps it is not necessary to search elsewhere for the secret of the enthusiasm which penetrates the recitals of all those whom one has seen rise above ordinary heights."

Notwithstanding the statement of Ramond, in general those who have attained great altitudes refer to a mood of discouragement and of depression. In these climbing expeditions allowance has to be made for the concurrent effect of muscular fatigue and mental strain, but the low barometric pressure with the consequent lack of oxygen appears to be the essential factor in modifying the mood of the individual.

In the famous balloon ascent of Tissandier in 1875, in which two of his companions lost their lives, the element of fatigue was absent. At 7,000 meters Tissandier was unable to make the effort necessary to put on his fur gloves; at 7,500 meters he writes, "the condition of torpor which comes over me is extraordinary. Body and mind become feebler little by little, gradually and insensibly. There is no suffering. On the contrary one feels an inward joy. There is no thought of the dangerous position; one rises and is glad to be rising."

In more recent observations [4] on the effect of high altitude made on Pike's Peak (14,093 feet) the observers refer to an initial depression which in some preceded adaptation to the high altitude; "it was somewhat difficult to judge to what extent the persons who ascended Pike's Peak were affected psychically, but it seemed to us that in all probability many of them were so affected. The number of people who in one way or another were inclined to be unreasonable seemed, at any rate, to be unusually great, and the duties of those in charge of the Summit House were, in consequence, by no means easy. For this reason a deputy-sheriff was stationed at the Summit House during the summer."

In his detailed study of respiration Haldane [5] describes the effects of serious reduction of free oxygen in the systemic capillary blood (anoxæmia): "As the slow onset of anoxæmia advances, the senses and intellect become dulled without the person being aware of it; and if the anoxæmia is suddenly relieved by means of oxygen or ordinary air, the corresponding sudden increase in powers of vision, hearing, etc., is an intense surprise. The power of memory is affected early, and is finally almost annulled, so that persons who have apparently never lost conscious-

[4] *Philosophical Transactions of the Royal Society of London*, 203 B. Physiological Observations made on Pike's Peak, Colorado, with special reference to Adaptation to Low Barometric Pressure. By C. Gordon Douglas, J. S. Haldane, Yandell Henderson, and Ed. C. Schneider (up 14,093 feet. Barometer 452-462 mm.) London, Harrison and Sons, 1912-13.

[5] Haldane, J. S.: *Respiration*. New Haven, Yale University Press, 1922.

ness can nevertheless remember nothing of what has occurred. Powers of sane judgment are much impaired, and anoxæmic persons become subject more or less to irrational fixed ideas, and to uncontrolled emotional outbursts."

Sir Clement le Neve Foster,[6] while inspecting a mine, developed anoxæmia due to the after-damp and although he had but a few steps to go to reach safety, he sat down and repeatedly wrote "good-bye, my darlings I am dying, good-bye, good-bye my darlings." When the rescue party arrived he strenuously resisted being forced to leave his seat.

In the economy of the organism water plays an essential rôle, and the interchange of water between the organism and the environment may well be considered in the light of Stockard's formulation: "In the case of water, the external environment and the internal conditions become so intimately continuous that they are difficult to separate. We become more and more impressed with the fact that the so-called external environment actually extends far into the egg and embryo or into the protoplasm itself and there is no clear distinction between external and internal environment or actually between environment and living stuff. . . . The water of protoplasm has recently been described by Dr. E. F. Adolph as 'living water.'"[7] With equal truth may the water of proto-

[6] Barcroft, Joseph: *The Respiratory Function of the Blood.* Part I "Lessons from High Altitudes." London, Cambridge University Press 1925.

[7] Stockard, Charles R.: *The Physical Basis of Personality.* New York W. W. Norton & Co., 1931.

plasm be described as "laughing water," when it enters into the very tissue of the radiant Minnehaha, and the characteristics of water, allotted to it by physicist and chemist, fail to do justice to the actual water of the world of human experience.[8]

In the human organism the control of the water balance is extremely delicate, and deprivation of water is signaled by the familiar local and diffuse symptoms of thirst. The specific discomfort and general weakness tend to dominate the experience of the individual, without the striking effects on mood due to deprivation of oxygen. Sven Hedin,[9] perhaps with some literary elaboration, recounts his personal experience of extreme deprivation of water: "Our throats were on fire with the hot dryness. We fancied we could hear our joints grating, and thought they would catch fire from the friction of walking." The quenching of the extreme thirst caused not only a general feeling of renewed energy and of vitality in the tissues; it caused a sort of ecstasy, a reaction in feeling-tone and outlook: "The star of my fortunes

[8] Cf. Shelley, "The Cloud."

"I am the daughter of earth and water,
And the nursling of the sky
I pass through the pores of the ocean and shores,
I change but I cannot die.

. . . . . .

I silently laugh at my own cenotaph,
And out of the caverns of rain,
Like a child from the womb, like a ghost from the tomb
I arise and unbuild it again."

[9] Hedin, Sven: *Through Asia.* New York and London, Harper & Brothers, 1899. Vol. I.

shone as brightly as ever. . . . It was a solemn, an awe-inspiring moment."

The deprivation of water does not seem to offer so much scope for imaginative elaboration as the deprivation of food; Sven Hedin was preoccupied with thoughts of the appearance of water in fountains and waves, of its coldness, its refreshing quality. In other cases there may be more preoccupation with accessory satisfactions; thus Flaubert,[10] deprived of water for seventy hours in the desert, is obsessed with the thought of the ices of Tortoni, and teases his companion by dwelling on their delectable qualities.

Shackleton's sledging party in the antarctic suffered not only from hunger but from thirst, but in their phantasies the nutritive value of the drink is prominent: "We talked of what we would have drunk if we had had the chance. Mackay said he would have liked to drink a gallon of buttermilk straight off; Mawson would have preferred a big basin of cream, while I would have chosen several pots of the best coffee with plenty of hot milk." [11]

The influence of deprivation of food on the personality is familiar to all; a hungry man is an angry man, the student prefers to face his examiner after the latter's afternoon tea rather than before the tea interval. Conrad [12] pays a high tribute to the second engineer on the boat, from whose deck one misty morning far up a Borneo

[10] Paulhan, Fr.: *Les Caractères.* Paris, Félix Alcan, 1902.

[11] Shackleton, E. H.: *The Heart of the Antarctic.* Philadelphia, J. B. Lippincott Co., 1909.

[12] Conrad, Joseph: *A Personal Record,* New York, Doubleday, Page & Company, 1912.

river he first saw Almayer, when he says, "he was an abstemious man with a good digestion and a placid, reasonable view of life even when hungry."

The narratives of arctic and antarctic explorers give vivid descriptions of the modification of the personal equilibrium by variations in the supply of food. Commander Schley [13] in the relief expedition of 1884, sent to rescue Greely's ill-fated exploring party, found the remaining members in a state of semi-starvation: "The weaker ones were like children, petulant, rambling and fitful in their talk, absent and sometimes a little incoherent." Greely [14] in his own account of the deterioration of the morale of his men under the strain of prolonged starvation records how the men pilfered and lied in a disconcerting way but feels some compunction at mentioning their names, "believing even at that time, and being much more impressed with it now, that rigorous judgment should not be meted out to men so hardly situated."

In Shackleton's group, too, the members found it difficult to live up to the code of the well-fed gentleman and to preserve the conventional social amenities. Biscuits and hoosh (a form of soup) had to be distributed by a rigid technique which eliminated any discrimination. The indifference of the cultured individual to the comparative size of his neighbor's ration could not withstand the grinding insistence of the pangs of hunger, "each of us always

[13] Schley, W. S., U. S. N. and Soley, J. R., U. S. N.: *The Rescue of Greely.* New York, Charles Scribner's Sons, 1885.

[14] Greely, A. W.: *Three Years of Active Service,* Vol. II. New York, Charles Scribner's Sons, 1896.

feeling sure that the smallest share had fallen to our lot." On one occasion Shackleton was unfortunate enough in drawing lots to get the bit of biscuit instead of one of the three small bits of chocolate, "and a curious unreasoning anger took possession of me for a moment at my bad luck. It shows how primitive we have become, and how much the question of even a morsel of food affects our judgment." "During the last weeks of the journey outwards and the long march back, when our allowance of food had been reduced to twenty ounces per man a day, we really thought of little but food. The glory of the great mountains that towered high on either side, the majesty of the enormous glacier up which we travelled so painfully did not appeal to our emotions to any great extent." It was only on the homeward journey that the traveling conditions made it possible for the members of the party to keep close together and to talk. The subject of their conversation was food: "We could not joke about food in the way that is possible for the man who is hungry in the ordinary sense. We thought about it most of the time, and on the way back we used to talk about it, but always in the most serious manner possible. . . . It is with strange feelings that I look back over our notes, and see the wonderful meals that we were going to have. We used to tell each other, with perfect seriousness, about the new dishes that we had thought of, and if the dish met with general approval there would be a chorus of, 'Ah! That's good.' Sometimes there would be an argument as to whether a suggested dish was really an original invention, or whether it did not too

nearly resemble something that we had already tasted in happier days. The 'Wild roll' was admitted to be the high-water mark of gastronomic luxury. Wild proposed that the cook should take a supply of well-seasoned minced meat, wrap it in rashers of fat bacon, and place around the whole an outer covering of rich pastry, so that it would take the form of a big sausage-roll. Then this roll would be fried with plenty of fat. My best dish, which I must admit I put forward with a good deal of pride as we marched over the snow, was a sardine pasty, made by placing well-fried sardines inside pastry. At least ten tins of sardines were to be emptied on a bed of pastry, and the whole then rolled up and cooked, preparatory to its division into four equal portions. I remember one day Marshall came forward with a proposal for a thick roll of suet pudding with plenty of jam all over it, and there arose quite a heated argument as to whether he could fairly claim this dish to be an invention, or whether it was not the jam roll already known to the housewives of civilization." The starved explorers with their meager antarctic resources had evidently the same desire for personal distinction as their well-fed colleagues in the temperate zone, and defended their claims of gastronomic priority with as much zeal as any pundits in philosophy or immunology. The organism, threatened at the nutritive level, mobilized the imagination, which took as much pains in elaborating a barmecide feast as it does under other trials of outrageous fortune in elaborating a picture of a blessed future state.

Made conscious by personal experience of the compel-

ling influence on man's personality of persistent hunger, Shackleton speculates as to why chronic starvation is not a more disturbing factor in modern communities than it appears to be: "Man becomes very primitive when he is hungry and short of food, and we learned to know what it is to be desperately hungry. I used to wonder sometimes whether the people who suffer from hunger in the big cities of civilization felt as we were feeling, and I arrived at the conclusion that they did not, for no barrier of law and order would have been allowed to stand between us and any food that had been available. The man who starves in a city is weakened, hopeless, spiritless, and we were vigorous and keen."

In contrast with the reaction of these vigorous men to limited rations during an adventure which gave an outlet to all their energies, one may consider the picture of the British and Indian troops besieged in Kut after the exhausting and depressing experience of the unsuccessful battle of Ctesiphon. The chief medical officer [15] reports that during the first two months of the siege both British and Indian troops were moderately cheerful; for the next six weeks or so they were more subdued. For the last month without being depressed or melancholy they became somewhat cheerless, and during the last fortnight manifestations of mirth and vivacity had disappeared. Here one has to consider not merely the degree and the duration of the inadequacy of the food supply, but also

[15] Hehir, Sir Patrick: "Effects of Chronic Starvation During the Siege of Kut," *British Medical Journal*, p. 867, June 3, 1922.

the climate and the total situation of the beleaguered garrison.

In a study [16] of the famine in Russia in the summer of 1922 we are told that the emaciated population showed extreme apathy, indifference to personal appearance and cleanliness, somnolence, loss of sexual desire and total resignation to one's fate. In the later stages of hunger one was struck with the total immobility of the sufferers. In the town of Kherson, where 590 corpses were buried in one day, one got an example of the emergence of the primitive under the strain of hunger: "Cannibalism, suicide, abandonment of children by their parents, wholesale flights to regions unknown, all much resembled a psychosis."

The data quoted above from climbers and explorers, from beleaguered soldiers and famine-stricken peasants, give some idea of how, in addition to the fundamental organic changes, the inner experience and behavior of the total organism are modified by a lack of the necessary energy-supplying material from the environment. In these cases the deficit was a drastic and obvious one, although of comparatively brief duration. In other cases the inner experience and the external behavior of the organism may be modified by less obvious modifications of the supply of chemical components from the environment. The inadequacy may be in relation to a single chemical component or to more complex material, and the depriva-

[16] Hassin, George B.: "Brain Changes in Starvation," *Archives of Neurology and Psychiatry*, xi, p. 551, 1924.

tion may be over a prolonged period and difficult to demonstrate save by painstaking investigations.

Food must be adequate in quality as well as in quantity. The various components of our diet have each their special significance. For muscular exercise, an easily available store of sugar is important; for maintaining the heat level of the body, fats are important. The need of the organism for these specific components is to a certain extent reflected in the consciousness of the individual by a specific desire for the food required. In the arctic regions there is a desire for fats which would revolt one in the tropics. Shackleton's hungry and thirsty party longed for a drink which would supply a large amount of fat, such as a gallon of buttermilk, a basin of cream, coffee with hot milk; "When we were living on meat our desire for cereals and farinaceous foods became stronger; indeed any particular sort of food of which we were deprived seemed to us to be the food for which nature craved. When we were short of sugar we would dream of sweet-stuffs, and when biscuits were in short supply our thoughts were concerned with crisp loaves and all the other good things displayed in the windows of the bakers' shops."

The practising physician has many opportunities of observing the dependence of traits of personality upon the inadequacy of the supply of essential constituents to the organism. Some children are difficult to manage, after exercise they show undue fatigue, loss of emotional control with clamor, opposition and tears; this disturbing behavior may be due to an inadequate supply of the

most important fuel of the body, the carbohydrates, and a modification of the diet with the administration of easily assimilated carbohydrate may bring about a marked improvement in the equilibrium of the child. In adult patients where the amount of sugar available for the tissues has been reduced by the administration of insulin one may observe mental states of excitement, apprehension and confusion which are controlled with astonishing rapidity by means of a few lumps of sugar. In these nervous children something of the same sort can be achieved, if less strikingly and in less degree.[17]

In pellagra, which is considered to be due to the prolonged use of an unsatisfactory diet, a frequent symptom is a marked change of mood of varying nature, irritability, anxiety, distrust, depression. The ability to grasp and elaborate impressions may be modified, and the patient may see hostility in the environment where none exists. The behavior may be seriously disturbing, and acts of violence may occur. "Pellagrins are, as a rule, depressed and dull brained, they speak little and in a low voice, their appearance suggests dejection and resignation." [18]

For centuries the cretin has been a familiar object of art and a medical problem. Not only was he stunted in body, but of limited intelligence and with a personality showing as definite anomalies as his physique. Even in childhood his intelligence was obviously restricted, his

[17] Cameron, H. Charles: "Underlying Disturbances of Metabolism of the Nervous Child," *British Medical Journal,* Feb. 2, 1929.

[18] Harris, H. F.: *Pellagra.* New York, The Macmillan Co., 1919.

response to simple cultural demands inadequate, his initiative lacking; he failed to develop a personality of mature type. We have learned that both the physical defects and the anomalous personality of the cretin are, at least in part, due to the fact that the tissues are not receiving in utilizable form the iodine which they need. In the adult, disease or surgical removal of the thyroid gland, the organ which acts as the elaborating and storage center of the iodine supplied in the food, causes a change in the personality of the patient, and the supply of an adequate amount of thyroid gland from an animal may in a brief space of time restore the personality to its previous state.

In some types of anæmia the patients, usually women between the ages of 30 and 45, are nervous, unreasonable, difficult to handle; "it is striking to see their personalities change for the better as they recover on taking large doses of iron." [19]

The primary disturbance of the equilibrium of the organism at the nutritive level, the tension created by the inadequate supply of energy-providing material, reverberates throughout the organism and manifests itself at the level of the more complex or personal functions. In other cases the primary disturbance of the equilibrium may arise at the higher levels with resultant reverberations at the nutritive level. Thus in conditions of emotional and instinctive tension and of environmental strain

[19] Minot, George R.: "The Treatment of Anæmia, with Comments on Food Deficiency and Its Relation to the Nervous System." *Transactions of the American Neurological Association,* 1931.

the simpler mechanisms of the organism are involved and the nutritive process modified.

Disturbance of the nutritive interchange with the environment may result not only from the unconscious bodily processes involved in instinctive tensions and emotions, it may be the result of conscious purpose. With food supplies easily available, with no physiological difficulty in the way of assimilation, with no crude emotion nor actual situation disturbing the bodily functions, the individual may, in virtue of his inward striving for self-expression and personal value and satisfaction, deliberately disturb the simple nutritive equilibrium between the organism and the environment.

Father William Doyle,[20] a member of the Society of Jesus, not only thought fit to avoid certain familiar comforts such as warming himself at a fire or sleeping to the extent of his natural inclination, he deliberately inflicted on himself personal discomforts of great variety and considerable ingenuity. At periods he wore a hair shirt and one or two chains, he exposed himself to nettles and to thorns, he stood in freezing water at midnight, he lay on the cold chapel stones, he flagellated himself. He utilized also the function of nutrition as a battleground of the soul: "Between sugarless tea, butterless bread and saltless meat, he converted his meals into a continuous series of mortifications. Naturally he had, in fact, a very hearty appetite and a keen appreciation of sweets and delicacies; all of which he converted into an arena for self-denial."

[20] O'Rahilly, Alfred: *Father William Doyle, S. J. A Spiritual Study.* New York, Longmans, Green and Co., 1925.

Early extracts from his private notebook indicate the development of this attitude: "I feel a growing thirst for self-denial; it is a pleasure not to taste the delicacies provided for me. I wish I could give up the use of meat entirely. I long even to live on bread and water. My Jesus, what marvellous graces You are giving me, who always have been so fond of eating and used to feel a small act of denial of my appetite a torture."

The vigorous protests of the lower functions in face of this attempt to attain a satisfactory equilibrium at their expense is shown by the following quotation: "A fierce temptation during Mass and thanksgiving to break my resolution and indulge my appetite at breakfast. The thought of a breakfast of dry bread and tea without sugar in future seemed intolerable." At the front we find in his notebook extracts of the progress of that holy war which he was conducting within himself, while playing an efficient rôle as chaplain in the unholy war which was going on around him: "Tempted twice to take sugar. Gave up pancakes. Strong temptation to take honey. No butter at lunch (not inclined). Violent temptation to eat cake, etc., resisted several times. Overcame desire to take jam, honey and sugar. No bacon and eggs. Tempted to take second course. Fierce temptation to take cake, etc. Drank cold tea. Tempted to take sweets." On the subject of butter there are many resolutions in the diary, and his thoughts no doubt tended to dwell with as much intensity as those of the hungry antarctic explorers on those foods which the fundamental organization of his nature craved. While certain systems of the organism,

essential to its vital integrity and well-being, craved the suitable supplies, other needs of his nature also craved satisfaction and vetoed the gratification of the appetites; "God has been urging me strongly all during this retreat to give up butter entirely."

With these high purposes Father Doyle not only mortified himself in the quality of his diet, but made an issue of its quantity. Even during the most strenuous early part of the war he had already decided to reduce the quantity: "Towards the end of the retreat, a light came to me that, now that I have given Jesus all the sacrifices I possibly can in the matter of food, He is now going to ask retrenchment in the quantity. So far I have not felt that He asked this, but grace now seems to urge me to it. I dread what this means, but Jesus will give me strength to do what He wants."

Poor Charles Wesley had a terrible time even with a mild mortification of the flesh. In his journal [21] he tells us of his determination to give up tea for a week: "Monday, July 28, I began my week's experiment of leaving off tea: but my flesh protested against it. I was but half awake and half alive, all day: and my head-ache so increased towards noon, that I could neither speak or think. So it was for the two following days, with the addition of a violent diarrhea, occasioned by my milk diet. This so weakened me, that I could hardly sit my horse." This seems to have terminated Wesley's attempt to derive merit from conflict with the nutritive functions.

[21] Whitehead, John: *Life of the Rev. John Wesley, M.A. with the Life of the Rev. Charles Wesley, M.A.* Boston, Dow & Jackson, 1845.

The ascetic may restrict his diet in order that by denying the appetite he may attain inner peace and acquire merit, but there are other reasons for the same procedure. It has long been a familiar observation that under conditions of starvation, as of modification of the organism by certain drugs, the individual may pass into an unusual state in which the veil, which normally separates the individual from reality, seems to be withdrawn and he enters into a unique and intimate relationship with the universe, from which under ordinary circumstances he feels himself somewhat estranged. There is a saying among the Zulus "that the continually stuffed body cannot see secret things"; they have no faith in a fat prophet.[22]

"The American Indians fasted sometimes six or seven days, until both their bodies and minds became free and light, which prepared them to dream; . . . what a young man sees and experiences during these dreams and fasts, is adopted by him as truth and it becomes a principle to regulate his future life." [23]

As a deficit in the normal energy-supplying material may influence the personality, so may the introduction into the system of various chemical components bring about a great variety of changes. The relation between various drugs and changes in the inner experience of the individual is ancient knowledge widely disseminated. The change of mood and outlook secondary to the administration of alcohol is a familiar observation; we have venerable authority for giving strong drink to him who is heavy

[22] Tylor, E. B.: *Primitive Culture.* London, John Murray, 1920.
[23] Tylor, E. B.: *op. cit.*

of heart. Many other drugs play a similar function in modifying mood and inner experience, and on account of the resultant inner illumination have an important rôle in religious ritual.

Mescalin (Mexican button, peyote), one of the drugs used for ritual purposes, has recently been the object of detailed studies. The drug induces a condition of intoxication and excitement filled with visions, and these symptoms were received with awe, anxiety, fear and horror; in many places the use of the drug was reserved only for the tribal sorcerer and the physicians. A plant which can cause such a change in the spirit of man, which makes him transcend his ordinary waking limitations, which discloses visions to which he is usually blind, is naturally considered of divine origin; certain Indians look upon it as a "divine being," "a divine oracle," "a great god of magic," and as the source of all valuable qualities such as health, courage and strength.

The effect of the drug is thus described by one of the participants in an investigation made at the Heidelberg clinic: "In the dark room I fell very quickly, without noticing it, into a dream-like condition. I felt as if I lay on an oriental divan. I saw in perspective a series of oriental rooms passing into each other with fairy-like charm and splendor of form and color. Through the high arched windows came a flood of sunlight and allowed diamonds and emeralds, rubies and sapphires, amethysts and topazes to play in the most beautiful colors. From the distance I thought I heard enchanted harps and flutes, an oriental procedure in harmony with all the spell

of enchantment that was around me—then suddenly there flickered in the room in little lamps blue, red, white, violet and yellow flames. Everything was drenched in a magical light. It seemed as if from the gardens wonderful songs of birds came. I was penetrated with a peculiarly delightful feeling." [24]

Among other drugs which cause dramatic changes in the personal experience of the individual are hasheesh, opium, ether and nitrous oxide. William James [25] has given us a vivid description of his experience with nitrous oxide: "With me, as with every other person of whom I have heard, the keynote of the experience is the tremendously exciting sense of an intense metaphysical illumination. Truth lies open to the view in depth beneath depth of almost blinding evidence. The mind sees all the logical relations of being with an apparent subtlety and instantaneity to which its normal consciousness offers no parallel; . . . The immense emotional sense of *reconciliation* which characterizes the 'maudlin' stage of alcoholic drunkenness,—a stage which seems silly to lookers-on, but the subjective rapture of which probably constitutes a chief part of the temptation to vice,—is well known. The centre and periphery of things seem to come together. The ego and its objects, the *meum* and *tuum* are one. Now this, only a thousandfold enhanced, was the effect upon me of the gas: . . . I have sheet after sheet of phrases dictated or written during the in-

[24] Beringer, Kurt: *Der Meskalinrausch.* Berlin, Julius Springer, 1927.
[25] James, William: *The Will to Believe and Other Essays in Popular Philosophy.* New York, Longmans, Green and Co., 1923.

toxication, which to the sober reader seem meaningless drivel, but which at the moment of transcribing were fused in the fire of infinite rationality."

The experiences of various types recorded above illustrate the fact that the organism works as a whole. They show that in complex human behavior the simple nutritive exchange may become involved, either in relation to a conscious program or as an element in the mobilization of emotional forces; they show that, on the other hand, disturbance of the simple nutritive equilibrium by restriction of suitable material or by the introduction of unsuitable material may transform the total pattern of reaction of the organism and cause experiences and behavior to which the individual and the cultural group may attribute high value.

Even to the simple test of starvation the organism reacts as a whole in a complex way determined by its inherent qualities, its cultural background, the total situation. Shackleton's hardy explorers anticipating final success mobilize their imagination to supply a compensatory satisfaction; exhausted and dispirited peasants and soldiers in a hopeless situation show a passive resignation; the stout companions of the antarctic explorer, Captain Scott, even when the die has finally been cast against them greet the unseen with a cheer; the religious devotee preoccupied with spiritual values welcomes the turmoil due to starvation as helping him the better to attain an exalted goal.

The effect of simple chemical factors upon the fundamental economy of the organism is in itself a problem of

great complexity, while their effect upon mood, behavior, inner experience and code of values requires the most critical scrutiny of the facts available. We can safely accept the general principle that there is a relationship between chemical components and personal reactions, but must be on our guard against facile conclusions, which tend to discredit work of a more serious nature. Thus Napoleon is said by one writer to have lacked the chemical component that determines religion. The component is not specified, but the reader is led to believe that it is as definite as spiritus frumenti or mescalin. A newspaper account of some recondite laboratory researches announces that mother love is correlated with the administration of manganese, but one's hopes are dashed by finding that the real stuff of experience, from which this statement is derived, consists of the behavior of some rats receiving manganese in their diet. The character of the Teuton is attributed to copious libations of beer, but the correlation of disagreeable traits of personality with beer loses some of its value when one notes that the book, in which this claim is dogmatically made was published in 1916 by a wine-drinking Frenchman.[26] According to him the drinker of wine is bright, gay, cheerful, not too heavy, not persistent in anger, while beer brings about a narrowness of spirit, obstinacy, love of superfluous details and puerilities. The same author makes water-drinking responsible for mental rigidity and intolerance, and attributes to this habit the ancestor-worship of the

[26] Fiessinger, Charles A.: *Les Maladies des Caractères.* Paris, Perrin et Cie, 1916.

Chinese. The views of the Frenchman receive a certain support from an erudite professor of English literature,[27] who in a biography of his cellar over a period of thirty years pays a loving tribute to the contents: "When they were good they pleased my senses, cheered my spirits, improved my moral and intellectual powers, besides enabling me to confer the same benefits on other people." As the authors of the *Bridgewater Treatises on The Power, Wisdom and Goodness of God as Manifested in the Creation* saw in physical nature and in the animal kingdom the proof of the purposeful activity of the Creator, and as the modern biochemist sees in the physical and chemical qualities of our environment unique qualities which seem specially adapted for the emergence and evolution of life, so the professor of rhetoric sees in port wine a further example of the wonderful adaptation of the environment to human needs; there is "something about it which must have been created in pre-established harmony with the best English character."

There is evidently something particularly seductive in the topic of the kinship of the environment with the human personality, and in view of this seductive quality the critical faculty needs to be specially on the alert.

We have dealt so far chiefly with the energy-supplying material which the environment affords in the form of food to the organism, but there are other forms of energy in the environment which exercise a profound influence on the organism. The exact analysis of this influence is a

[27] Saintsbury, George: *Notes on a Cellar-Book.* London, The Macmillan Co., 1920.

matter of great difficulty, but even in the absence of precise determinations the general fact of the influence of these factors on personality must be mentioned.

The sun supplies to the organism direct radiant energy as well as energy which has been stored up in the vegetable kingdom or transformed into mutton or beef. It is difficult to attribute specific personal traits to this special factor, as so many other variables are involved in the situation. Some observers do not hesitate, with what justification may be questioned, to attribute certain traits of white residents in the tropics to the direct effect of the sunshine. Thus a French observer,[28] who gives a far from flattering account of the personal traits of whites who have had any considerable length of service in the tropics, makes the sun responsible for their conceit and self-assurance, their pretentious assumption of culture, use of sententious language, and blindness to their own mistakes; a further effect of the sun is said to be a heightening of the imagination, which leads the victim if engaged in conversation to swamp his hearers by his volubility and fearless disregard for the truth.

A completely different standpoint is taken by an observer in the Federated Malay States,[29] who after experience in several Eastern countries maintains that the mental irritability and breakdown, to which white residents in the East are subject, is solely due to a lack of associations

[28] Jaureguiberry: *Les Blancs en pays chauds; décheance physique et morale.* Paris, A. Malvine et Fils, 1924. Review in *Brit. Med. Journal.*, Sept. 27, 1924.

[29] Wyborn, V. D.: "Mental Irritability and Breakdown in the Tropics," *Brit. Med. Jour.*, Aug. 14, 1926.

and to inadequate mental adjustment. In his opinion all physical causes, such as heat, light and glare, are merely aggravating agents, and are not to be confused with this, the prime cause of the trouble. How difficult it is to draw conclusions is emphasized by a third writer,[80] who calls attention to differences in reaction to the sunshine of Colorado, inland Australia, and Kenya, on the one hand, and to that of India or the Malay Peninsula, on the other; "at present, so far as I know, there is no sufficient reason to be alleged for these differences, and the whole subject requires much more careful investigation considering its importance to the Empire."

It is difficult to isolate the effect of sunshine from that of other factors involved in climate, and from the complex geographical, social and economic factors which depend upon climate. Huntington[81] has collected a great body of data bearing on the influence of climate on the individual and the group, and it may be of interest to present some of these facts and some of his suggestive and occasionally provocative conclusions. He states that the effect of a high wind on the individual may be striking: "I have seen a small boy, who was usually very quiet, climb to the top of a tall tree when a violent wind came up, and swing in the branches, singing at the top of his voice." Prolonged exposure to high wind, as in a certain region of eastern Persia, is very trying; Europeans find

[80] Hobhouse, E.: "Mental Irritability and Breakdown in the Tropics," *Brit. Med. Jour.*, July 31, 1926.

[81] Huntington and Cushing: *Principles of Human Geography.* New York, John Wiley & Sons Inc.; London, Chapman & Hall Ltd., 1922.

Huntington, Ellsworth: *Civilisation and Climate.* New Haven, Yale University Press, 1924.

that it renders them irritable, deadens their initiative, makes them want to stay idly in the shelter of the house, while the natives are inert and inefficient in comparison with their fellow Persians who live farther to the north and west. Huntington attributes the difference between the inhabitants of the Bahamas and of Canada, both of the same stock, to the difference in climate; in the Bahamas the descendants of the original stock show to-day a larger proportion of poor whites than can probably be found in any other Anglo-Saxon community, while in Canada the descendants of the same stock are a robust element in a well-governed and law-abiding community. The same author surveys the various sections of the United States and formulates certain correlations between personality and climate. In the South there is less energy, less vitality, less education, fewer men rise to eminence, and these characteristics are to be attributed to an adverse climate. The climate of the Californian coast, though highly spoken of by residents, is too uniformly stimulating and may be a factor in causing nervous disorders. The North, however, cannot with any complacency consider these climatic defects of other sections, for in spite of a wonderfully stimulating climate most of the year, the extremes of temperature favor nervousness and frequently stimulate harmful activities: "That, perhaps, is why American children are so rude and boisterous, or why so staid a city as Boston has six times as many murders as London in proportion to the population." Our authority in a rather pessimistic strain sums up the human drama with climate playing the leading rôle: "Our

country takes immigrants of every mental caliber, and then stimulates some to noble deeds and others to commit murder, break down the respect for law, and give us city governments that shame us in the eyes of the world. All these things would apparently not happen to such an extent were our climate less bracing and did not its extremes often weaken the power of self-control." [82]

Whatever be the attitude of the reader toward these general conclusions, he is bound to admit the profound effect on the personality of such simple factors as temperature and humidity. Water, that great natural solvent, in the form of atmospheric humidity may act as a solvent on our moral fiber. Temperature, too, is a potent agent; the physicist has carefully studied the melting point of various elements, but the moralist has paid little attention to the melting point of the various virtues. The sexual code is sensitive to high temperature, the sixth commandment cannot withstand a certain degree of temperature and humidity, and even truth and honesty under certain climatic conditions begin to lose their rigid structure of the temperate zone.

The data presented in this chapter justify the conclusion that one will not do justice to human personality, if one study it in isolation and fail to realize its intimate dependence on the physico-chemical system of the environment, in the continuum of which it forms a mysterious nodal point.

[82] Huntington, Ellsworth: *op. cit.*, p. 32.

CHAPTER II

THE PERSONALITY AND THE COMPONENT STRUCTURES OF THE ORGANISM

In the first chapter the personality was taken to represent the individual in action, dealing not only with the simple constituents of his physico-chemical environment, but also with the complex demands of a cultural environment, and utilizing the impact of that environment in order to do justice to the demands of his own inherent constitution. In discussing the individual from the point of view of personality, emphasis is laid upon the more complex functions, which are of importance for individual expression and for the influence on the social environment. One concentrates on the inner experience of the individual and on his behavior, leaving the more detailed reactions of the tissues and the behavior of the various organs for the physiologist to study.

It is important, however, to remember that the personality is no disembodied spirit, that the personal factors are not dissociated from the impersonal factors, and that what we call the personal reactions of the individual are the expression of an organism of complex structure and highly integrated functions, which is intimately related to the complex network of the environment of which it

forms a part. The recognition of this intimate relationship need not lead us to the cynical materialism of Doctor Socrates in the novel of Anatole France.[1] The doctor, pointing to the various bottles of potent drugs in his cabinet, explains that in these bottles he has the wherewithal "to transform, abolish or exasperate the will of fifty thousand men . . .; but these substances are not essentially laboratory products. The laboratory combines, it creates nothing. These substances are scattered throughout nature. In their free state they envelop and penetrate us, they determine our will: they condition our free choice, which is merely the illusion caused in us by the ignorance of our determinants. . . . I say that the will is an illusion due to the ignorance in which we are of the causes which force us to will; that which wills in us, it is not we, it is several myriads of cells of prodigious activity which we do not know, which do not know us, which are ignorant of each other's existence and which nevertheless constitute us. By their agitation they produce innumerable currents which we call our passions, our thoughts, our joys, our sufferings, our desires, our fears and our will. We believe ourselves master of ourselves, and even a single drop of alcohol excites and then stupefies those elements through which we feel and will. The distinction of good and evil in human societies has never gone beyond the most crude empiricism. The distinction has been made in a purely practical spirit and on account of its convenience. We do not concern ourselves with this distinction for a crystal or for a tree. In regard to animals

[1] France, Anatole: *Histoire Comique*. Paris, Calmann-Levy.

we maintain an ethical indifference. We do the same with regard to savages."

The organism has complicated mechanisms for maintaining its internal dynamic equilibrium with the help of energy and matter derived from the environment; the organism reacts instinctively to external situations with complex patterns of reaction of highly adaptive nature; the inner experience of the organism is colored by feeling, by pleasure and pain; although dependent on the environment the organism maintains its identity and through its special constitution it reconstructs the environment symbolically as part of its personal system, makes it an object of thought and feeling, a means of self-expression and of realization of purpose. This complicated system of forces, the human organism, is capable of knowledge, of the cunning anticipation of events, of the assertion of value in the universe, of association with others in a social organization with traditions, institutions and culture.

In this complex relationship with the outside world a variety of specialized structures and functions are involved, and in the study of the integrated personality we must know something of these structures and of the respective contribution of their functions to the behavior and inner experience of the individual. It seems appropriate, therefore, to refer to some simple anatomical and physiological facts which are of special significance for the study of the personal experience of the individual and of his reactions to the environment.

In the regulation of the internal dynamic equilibrium

of the organism, the endocrine glands or glands of internal secretion play a central rôle; they not only control the growth and maintenance of the individual organism, they are essential for the perpetuation of the species. In addition to their control over the fundamental processes of life, they have an important influence on the personality of the individual, on his inner experience, on his output of energy, on his social relations. While the endocrine glands work as a team and in mutual interdependence, each of these organs has its own specific part to play in this team. The exact nature of the specific function of each gland is not easy to determine; the special contribution which it makes to the welfare and the efficiency of the integrated organism is in many cases obscure, but that the personality of the individual is profoundly modified by variations in the functions of these glands is a well-established fact. The exact nature of these modifications and their correlation with variations in the respective glands requires much further investigation. For our present purpose it may suffice to present a few instances from the data already available.

The pituitary gland is a small organ securely tucked away in the base of the skull (*vid.* Fig. 1). It is a gland of complex structure. Disturbance of this gland is liable to cause changes in fundamental life processes; at the same time it may cause important changes in the more complex functions, in the personality of the individual. We are indebted to Dr. Mark, who suffered from a disorder of the anterior lobe of the pituitary gland (acromegaly), for a detailed description of the effect of the pituitary dis-

order upon his personality.[2] In the interpretation of the individual case we have to be on our guard against attributing every symptom to the disturbance of the function of the gland itself, for neighborhood structures may be involved and such physical factors as variations in intracranial pressure have to be considered.

Dr. Mark states that a careful scrutiny of his diary in the light of his later knowledge of the disease "helped me to understand what is of great interest to me—*viz.*, how the disease has influenced my life, how at certain times, without my knowledge, it must have been the prime motive which impelled me to take some particular course of action—'a god stronger than me, that came to lord it over me.' " At the age of twenty-seven, long before there was any outspoken manifestation of the disease, as a house surgeon at a hospital he had many arguments with the matron on the subject of his requiring so much sleep and being so drowsy. He blamed his condition on the damp and relaxing locality of the hospital. The matron, the widow of a naval surgeon, took an ethical stand and reproached him with giving way to such trifling influences and urged him to live up more fully to his responsibilities. Thus a personal adaptation, based upon an impersonal process of disease, was attributed by the subject to climatic conditions and by his critic to an insufficient emphasis on certain values in life with a resultant inferiority of behavior.

Dr. Mark, who had always been fond of music, during

[2] Mark, Leonard P.: *Acromegaly. A Personal Experience.* London, Bailliere, Tindall and Cox, 1912.

his sickness became subject to various noises in his head and found that he always had some tune running in his head. With the progress of the disorder "my appetite for music has increased very much of late years, and I crave to be given 'excess of it.' This has seemed to me so obviously *pari passu* with the steady advance of my malady that I often wonder whether it may not be a manifestation of acromegaly. Can it possibly be a part or a phase in the course of this disease, just as the craving for food, which is a well-recognized symptom, and which at one period was, if not a predominant, at least a subordinate feature in my own case?" In certain periods of distress he found a sonata of Beethoven more efficacious than antipyrin, and his whole nervous system seemed beneficially affected by orchestral music.

The fat boy of *The Pickwick Papers,* whom Dickens used as a literary ornament, has to a later generation become a medical problem; his personal traits arouse the suspicion of a disorder of the posterior lobe of the pituitary gland. A patient belonging to this group emphasized in his autobiography certain traits of his own personality, and the physician [8] who records this case states that "patients with disorder of the pituitary gland are good-humored, patient, considerate, docile, undecided, diffident, unusually tolerant of physical and mental pain."

Other authors do not hesitate to make more far-reaching statements, the validity of which can be determined only by the careful scrutiny of a large accumulation of

[8] Riese, Walther: "Ueber Persönlichkeitsmerkmale hypophysär-Fettsüchtiger." *Monatssch, f. Psych. u. Neur.,* Oct., 1925.

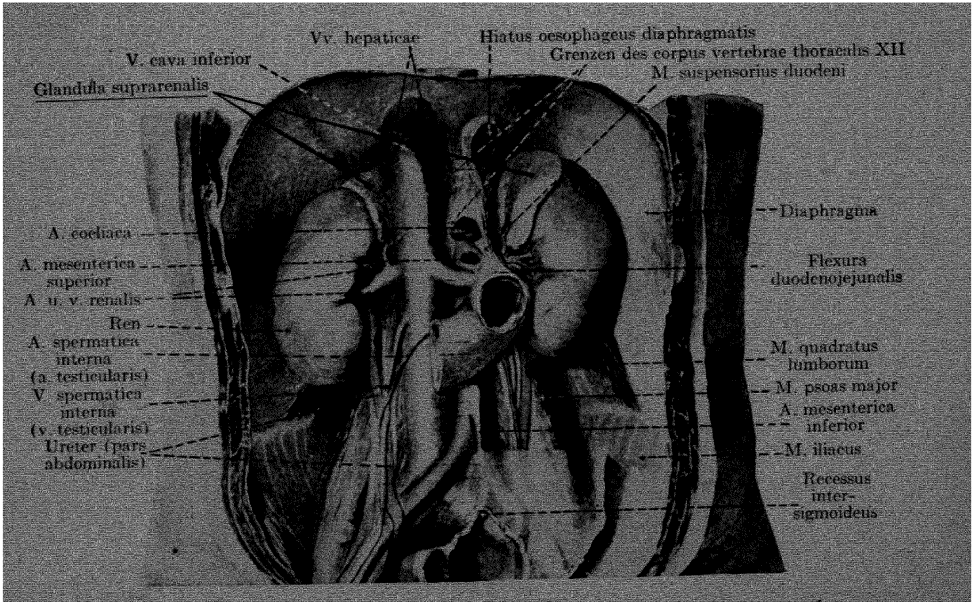

FIG. 2. THE ADRENAL GLANDS. (Spalteholz, Werner: *Hand-Atlas of Human Anatomy*. Courtesy of J. B. Lippincott Company.)

who succumbed to chronic disease of these organs (Addison's disease), mentions the occurrence of periods of depression, but the most important symptom was very marked weakness or lack of energy; this general weakness, early fatigue, loss of interest seem to be characteristic of progressive destruction of these glands.

Abnormal activity of the adrenal cortex (the outer layers of the gland), such as may be associated with tumor, tends to cause a striking change in the physical appearance of the individual. The child shows under these conditions accelerated growth and premature development of the sex organs, while the adolescent and the adult female tend to develop adiposity and the hair distribution of the male, with cessation of menstruation. Our information with regard to the changes in the personality which accompany these bodily changes is unfortunately meager. It is solidly established that the adrenal glands are mobilized in emergencies to play their rôle in supporting an instinctive pattern of reaction, whether of attack or defense, but as in the case of the pituitary gland, far-reaching statements of more speculative nature are made with regard to the contribution of the adrenal gland to the personality. We are told that good adrenal action is necessary for courage, while poor adrenal action, especially a lack of balance between the cortex and the medulla with the cortex playing the minor rôle, is responsible for the emotion of fear, for cowardice, for anxiety; according to the same author "the adrenal cortex is more of a male than a female portion of the gland," and the

prominence of the medulla in women is responsible for their being more emotional.[7]

The thyroid gland, a structure lying superficially in the neck on each side of the windpipe, has already been referred to in relation to its regulation of the iodine supply of the organism (*vid.* Fig. 3). The reduction of the activity of this gland leads to a general reduction of bodily activity which might be taken for laziness, to depression, intellectual dulness, impairment of memory. On the other hand, the individual with an overactive thyroid gland tends to be restless, overactive, irritable, tense. Thus an active, ambitious and domineering woman with an unnecessarily full program of domestic and social activities, or a nagging, scolding, talkative woman may owe these qualities to the special activity of the thyroid gland.[8]

In children also overactivity of the thyroid gland may explain certain personal traits such as extreme nervousness, easy excitability, great irritability and the tendency to cry over the most trivial circumstances.[9]

The parathyroid glands, small structures in close apposition with the thyroid gland, whose basal function is to regulate the supply of calcium to the system, may if not functioning properly, seriously modify the emotional sta-

[7] Bandler, Samuel Wyllis: *The Endocrines.* Philadelphia, W. B. Saunders Company, 1920, pp. 247-249.

[8] Campbell, C. Macfie: "Psychical Disturbances in the Diseases of the Glands of Internal Secretion." *Endocrinology,* ix, 3, May-June, 1925.

[9] Dinsmore, R. S.: "Hyperthyroidism in Children." *J. A. M. A.,* xcix, 8, 1932.

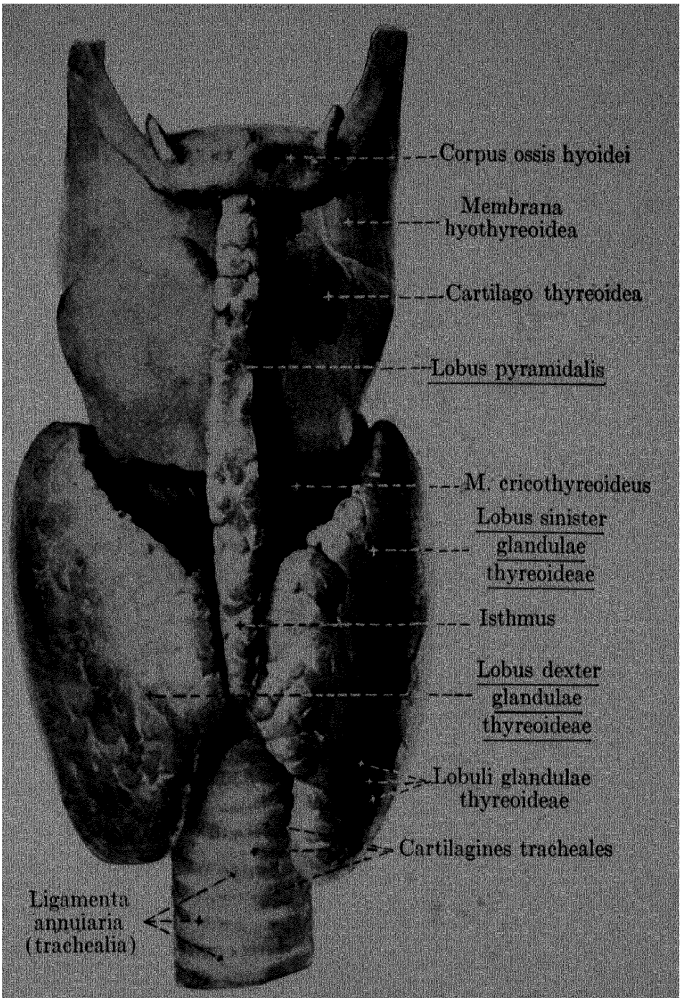

FIG. 3. THYROID GLAND IN RELATION TO THE LARYNX AND TO THE TRACHEA, VIEWED FROM IN FRONT. (Spalteholz, Werner: *Hand-Atlas of Human Anatomy*. Courtesy of J. B. Lippincott Company.)

bility and behavior of the individual. Thus Timme [10] suggests that the explosive anger and aggressive conduct of a group of children studied by him were due to faulty functioning of the parathyroid glands.

The reproductive glands or gonads, the testes in the male and the ovaries in the female, not only contain the germ-plasm, they also contain tissue which furnishes an internal secretion to the organism and exerts a powerful influence on the inner experience and the behavior of the individual. The activity of these glands to a large extent determines sexual desire and potency, which play a cardinal rôle in the evolution of the personality. At the same time they modify the general output of energy, subtly influence the tastes and temperament of the individual. Thus the male with underactive glands has a greater tendency toward music, art and literature than toward more virile occupations; he tends to be more phlegmatic, less ambitious and less aggressive than his normal fellow. In women "the removal of normal functioning ovaries usually produces mental depression." [11] While there is a wealth of observations dealing with the relationship of the special characteristics of man and woman to the rôle of the gonads and other glands of internal secretion, these observations are of very unequal value, the number of

[10] Timme, Walter: "Pluriglandular Syndrome Involving Calcium Deficiency and Correlated with Behaviour Disturbances." *Arch. Neur. and Psych.*, xxi, 254-260, 1929.

[11] Bell, W. Blair: *The Sex Complex.* A Study of the Relationships of the Internal Secretions to the Female Characteristics and Functions in Health and Disease. Second Edition. New York, William Wood and Company, 1920.

variables involved is very great and one must accept with the greatest reserve the plausible and dogmatic statements so frequently made on this topic.

Our life of external relations, our observations and our thoughts, the organization of our purposes, the execution of our individual acts, all take place on a background of a diffuse awareness of our bodily condition and of a certain feeling-tone.

Episodes in the lives of some individuals bring before us in challenging form the problem of this aspect of personal experience.

From adolescence until the age of twenty, John Stuart Mill [12] was apparently in a comfortable state of complacency: "I had what might truly be called an object in life; to be a reformer of the world. My conception of my own happiness was entirely identified with this object. . . . I endeavored to pick up as many flowers as I could by the way; . . . and I was accustomed to felicitate myself on the certainty of a happy life which I enjoyed, through placing my happiness in something durable and distant, in which some progress might be always making, while it could never be exhausted by complete attainment. This did very well for several years, during which the general improvement going on in the world and the idea of myself as engaged with others in struggling to promote it, seemed enough to fill up an interesting and animated existence." But now ensued some change in the personal equilibrium, and it is such a change as this which

[12] Mill, John Stuart: *Autobiography.* New York, Henry Holt and Company, 1874.

is a challenge to the student of personality, and makes him scrutinize the whole fabric of the personality to see where a clue to the situation is to be found. "The time came when I awakened from this as from a dream. It was in the autumn of 1826. I was in a dull state of nerves, such as everybody is occasionally liable to; unsusceptible to enjoyment or pleasurable excitement; one of those moods when what is pleasure at other times, becomes insipid or indifferent; the state, I should think, in which converts to Methodism usually are, when smitten by their first 'conviction of sin.' . . . I seemed to have nothing left to live for. At first I hoped that the cloud would pass away of itself; but it did not." He now read his favorite books from which he had hitherto drawn strength and animation, but "I read them now without feeling, or with the accustomed feeling minus all its charm; and I became persuaded, that my love of mankind, and of excellence for its own sake, had worn itself out." Mill now realized that the personal experience of the individual was more than a complicated result of mental associations, and that the life of feeling was of profound importance, and with his conscientious and pedantic mind "the cultivation of the feelings became one of the cardinal points in my ethical and philosophical creed."

A. C. Benson [13] has given us an account of a personal experience of depression which he looked back upon more or less as a religious experience which had brought its

[13] Benson, A. C.: *Thy Rod and Thy Staff*. New York and London, G. P. Putnam's Sons. 1912.

own reward, an experience which was "remedial and not retributive." In the presentation of his experience, unfortunately for our purpose, he was dissuaded by a friend from presenting a complete picture: "You must avoid the *physical* element . . . it must simply be treated psychologically." This advice illustrates the familiar attitude of discussing aspects of personal experience in isolation, as if the phenomena described at this level had a more or less substantial existence of their own. The description, however, is of interest. Benson tells in great detail about the unexplained development of mental pain and fear and melancholy and despair. His experience presented a curious duality; beneath the gloomy emotional surface of his experience "I did indeed perceive that there was something within, which was not only unaltered by all these woes, but actually unalterable; something on which the rage of all the elements might expend itself, and yet not maim or wound or crush it in the smallest degree." He felt that beneath the tingling misery of his actual experience there was an inner principle "still essentially pure and bright, courageous and strong."

A young working woman gives us another account of a trying experience, which she presents very vividly if without the analytical detail of Mill or the literary charm of Benson. She had given up her work and showed less spontaneity than usual, but was able to go about, and to outsiders she seemed to be enjoying herself, and to be reacting to the outside world in a normal manner. Her inner experience, however, was quite abnormal; she felt as if she were in a world by herself: "You seem unreal, it all

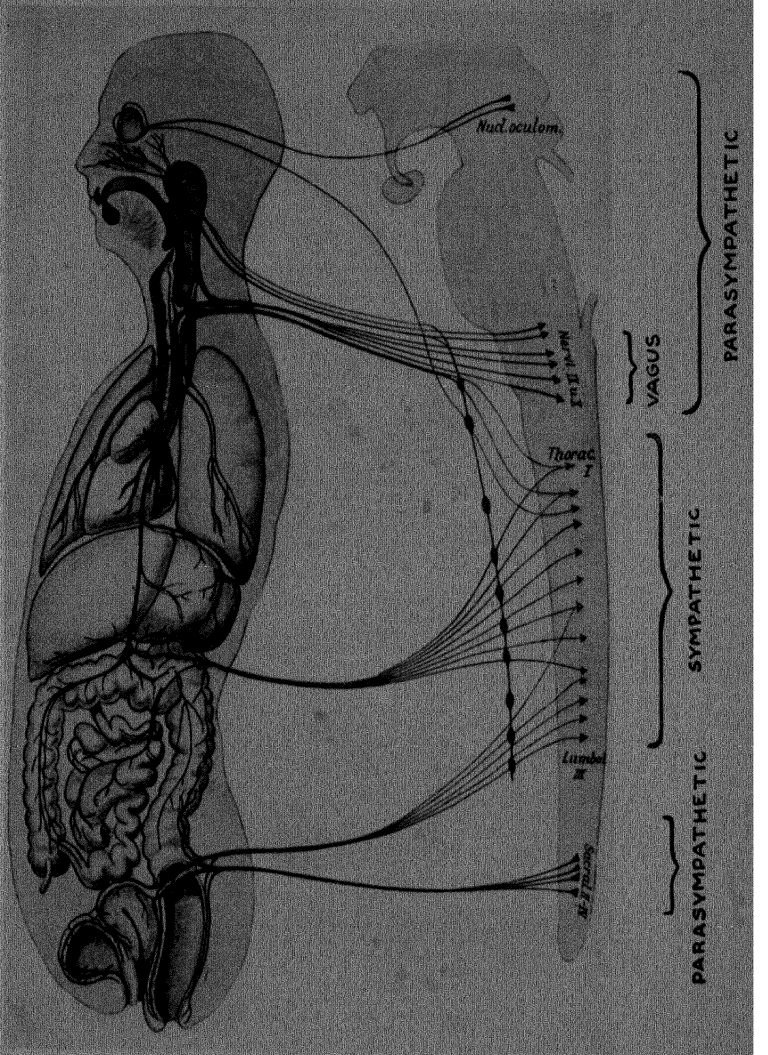

FIG. 4. DIAGRAM OF THE AUTONOMIC NERVOUS SYSTEM. (From Edinger, Ludwig: Einführung in die Lehre vom Bau und den Verrichtungen des Nervensystems. 2e Auflage. Courtesy of F. C. W. Vogel, Leipzig.)

seems unreal, what you say does not get into my head at all. . . . I would love to get back in the right world again, but I never can. . . . When I wake up in the morning there isn't anybody and I have to make one. I pretend I am sewing here but I'm not. I still keep pretending there is an Elizabeth (herself) and there ain't. I'm just a rotten fake, that's all I am. I don't feel human, I just feel different from everyone in the world. . . . I don't feel anything at all, I have no sense of feeling in myself, as if there was no one here at all. . . . I can feel myself walking but as if on air, I don't feel as if I had a body." While, therefore, stimuli from the outside world were grasped and elaborated and reacted to, the personal experience of Elizabeth lacked some elements which give to normal experience the feeling of solidity and reality, its special warmth and color.

In view of such actual experiences the investigator scrutinizes the organization of the personality to see what factors are most closely connected with the life of feeling. The feeling-tone of experience varies with modifications of the fundamental life processes of the organism and therefore has a special relation to the endocrine glands, and to that part of the central nervous system which is specially devoted to the maintenance of the internal dynamic equilibrium, the autonomic or vegetative nervous system (*vid.* Fig. 4). The autonomic nervous system consists of two subdivisions, the sympathetic and the parasympathetic. The latter, to which the vagus nerve belongs, through its activity fosters the building up and conserving of the tissues and the reserve stores of the or-

ganism, while the former has the rôle of releasing these reserve stores, speeding up the machinery for their distribution, directing that distribution in accord with the special needs of the moment. These two divisions of the autonomic nervous system work in the closest interdependence with the various endocrine glands.[14]

Many of the characteristics of the individual organism have been tentatively formulated in terms of the balance which exists between the activity of these two portions of the autonomic nervous system. The accurate determination of this formulation is one of the most delicate problems in physiology, which requires for its solution the careful compilation of the experimental data of the laboratory and the bedside observations of the patient. This balance between these two systems is not without its corresponding effect upon the higher functions of the organism, the personality of the individual, and here the problem becomes still more complicated. In view of the complexity of the facts and the difficulty of their interpretation it might seem the safer and more conservative procedure to pass over this intricate and debatable field without further discussion. We have, however, already taken the risk of submitting certain dogmatic statements of climatologists and endocrinologists to illustrate general principles, accompanying these statements with a warning that the statements did not necessarily represent thoroughly controlled and generally accepted conclusions. Tentative interpretations and daring anticipations may be

[14] *Vid.* Cannon, Walter B.: *The Wisdom of the Body.* New York, W. W. Norton & Company, Inc., 1932.

of value in stimulating the imagination and in furthering the accumulation of new observations, and will be a danger only if they are taken as representing established fact instead of fruitful hypotheses.

The more extreme a formulation is, the more likely are we to be on our guard against accepting it without critical scrutiny, so that the following presentation of the views of a French investigator [15] may be innocuous.

This author accepts a familiar, if somewhat dangerous, formulation [16] of patients as divided into two groups, in one of which (the sympathicotonic) in the balance of the two portions of the autonomic nervous system the sympathetic plays the dominant rôle, while in the other group (the vagotonic) the parasympathetic or the conservative element has the upper hand. He proceeds to outline what he considers to be the personal traits of the individuals in these two groups. The vagotonic are depressed, hesitating, timorous, apathetic and sad, with gloomy ideas, fear of severe illness and a tendency to pessimism in relation to the phenomena of life. They are in the moral sphere as in the physical sphere retarded and somnolent individuals. Both intellectual and physical effort is repugnant to them. The character of the sympathicotonic is the reverse; he is of a violent nature, impulsive, excessive in everything, in all his acts, his sentiments of friendship or enmity, his passions, his opinions.

[15] Guillaume, A. C.: *Vagotonies Sympathicotonies Neurotonies.* Paris, Masson et Cie, 1925.

[16] Eppinger and Hess: *Vagotonia; A Clinical Study in Vegetative Neurology.* New York, The Nervous and Mental Disease Publishing Company, 1915.

Late to bed, rising early, never fatigued, having no sleep he is still keen on his work; he is the gadfly, incessantly behind his subordinates, controlling them, even spying on them, stimulating them in every case and expending a great deal of personal energy. The sympathicotonic is subject to outbursts of rage, but when his rage is cold he is destructive, cutting, malicious. While the vagotonic tends to weep and lament in a passive manner, the sympathicotonic is aggressively angry, is offended at everything and at nothing.

Whatever defects such a presentation as the above may have in the way of uncritical correlation and facile generalization, it may call attention to the rôle played by the autonomic nervous system in the integrated system of forces called the personality.

In the feeling-tone of our inner experience, pleasure and pain, of varying degree and quality, are outstanding elements. In regard to pleasure and pain one part of the central nervous system seems to play a critical rôle, namely the mass of nerve cells at the base of each hemisphere of the brain, which is called the optic thalamus (*vid.* Fig. 5). The optic thalamus is one of the older parts of the brain, phylogenetically, and forms the lateral wall of the primitive neural tube from which the brain develops. This is an important station for the sensory impulses coming from all parts of the body and takes part in the organization of those movements expressive of pleasure or distress. When freed from the normal control of higher centers, this center acts in a more independent and explosive way, and the individual is subject

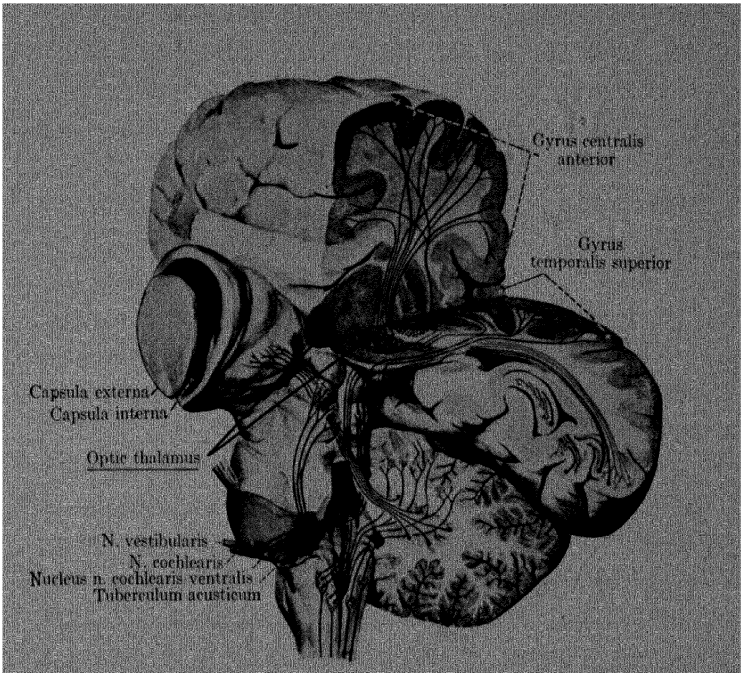

FIG. 5. DISSECTION OF THE BRAIN SHOWING THE OPTIC THALAMUS. (From Spalteholz, Werner: *Hand-Atlas of Human Anatomy*. Courtesy of J. B. Lippincott Company.)

to outbursts of laughter or crying, elicited by no appropriate stimulus and associated with no inner experience of mirth or grief. Henry Head, the English neurologist, has paid particular attention to the manner in which damage to the optic thalamus modifies the painful or pleasurable quality of sensory experience.[17] His results were based upon the examination of patients in whom the optic thalamus on one side was damaged, a condition which results in defective sensation and in pain over the opposite side of the body and face. He found that even when the patient perceived less clearly on the affected side than on the other side an uncomfortable stimulus such as pin-prick, pressure, heat or cold, he experienced more distress from the less distinct sensation. Thus even when the appreciation of temperature was lost on the affected side, the discomfort produced by cold and hot water was greater on the affected than on the normal half of the body. "In cases where the affected parts react more strongly to painful stimuli, it may happen that even scraping with the fingers, the application of rough objects to the skin, shaving, cutting the hair or nails, or even the vibration of a tuning fork may cause discomfort or produce a more unpleasant sensation than on the normal side. In those cases characterized by an over-response to painful stimuli, tickling is usually unpleasant."

Just as a degree of temperature, uncomfortable to the normal, would be felt disproportionately uncomfortable by the patient even when thermal appreciation was lost,

[17] Head, Henry: *Studies in Neurology,* Vol. II. London, Henry Frowde, Hodder and Stoughton, Ltd., 1920.

so a degree of temperature normally experienced as pleasant might cause a feeling of pleasure and comfort even when the patient was unable to recognize that the application was warm; thus a patient, unable to recognize that the object applied was warm, said, "Oh! that's lovely, it's so soothing, so very pleasant." Not only did damage to the optic thalamus cause a definite increase in the pleasurable and painful quality of stimuli from one side of the body, it caused a peculiar unilaterality of pleasure or discomfort in the response to emotional stimuli, such as music. One patient "could not stand the hymns on his affected side"; during the singing the patient constantly rubbed the affected hand. In another case, when the choir began to sing, "a horrid feeling came on in the affected side, and the leg was screwed up and started to shake." Another patient, who had become more amorous since his attack, and who now found the right half of his body more responsive to unpleasant and pleasant stimuli, said: "I crave to place my right hand on the soft skin of a woman. It's my right hand that wants the consolation. I seem to crave for sympathy on my right side."

In view of the fact that damage to the optic thalamus causes such modifications in the pleasure-pain value of definite stimuli, the question arises whether in the normal integrated individual the pleasure-pain quality of experience in general is not closely related to the activity of this organ or to closely associated mechanisms. The varying degree to which individuals are subject to intense pleasure or discomfort may depend on the sensitiveness of this region of the central nervous system.

In addition to the continuous awareness of one's bodily condition and to the general feeling-tone which colors all normal experience, the inner experience of the individual is subject to exacerbations of feeling of specific nature, of greater or less intensity, of episodic or protracted nature. The emotions of hate, fear, anger, love, light up the inner experience of the individual from time to time, and sentiments such as suspicion, resentment, diffidence may give a special quality to the background of the individual's experience over prolonged periods. In each emotional experience there is not merely a subjective event which is registered in the consciousness of the individual, but also an intricate series of physiological changes of a very definite pattern, which has a close relation to the needs of the organism in dealing with the biological situation which has caused the emotion. In these fundamental patterns of reaction the endocrine glands and the autonomic nervous system take an important part. Cannon [18] has done much to trace out these fundamental patterns, and Bard [19] has shown in animals that a definite region of the brain (the diencephalon) has a directing rôle in the expression of the emotion of rage.

Individuals vary in their emotional endowment. Some both love and hate in a tepid way; some love tumultuously, some hate cordially. Some are paralyzed or seriously handicapped by acute or chronic fear, others have

[18] Cannon, Walter B.: *Bodily Changes in Pain, Hunger, Fear and Rage.* New York and London, D. Appleton and Co., 1929.

[19] Bard, Philip: "A Diencephalic Mechanism for the Expression of Rage with Special Reference to the Sympathetic Nervous System." *Amer. Journ. Phys.*, lxxxiv, 3, 1928.

nerves of steel and meet situations of danger with little perturbation. In the total personality of the individual the emotional endowment is an important constituent, and this emotional endowment has to be thought of not merely in terms of subjective experience, but in terms of the complicated physiological mechanisms involved. It is in terms of these mechanisms that we shall perhaps understand the joy of life of Andrew Carnegie, the pessimism of Schopenhauer, the detached and even temperament of Spinoza.

So far we have dealt chiefly with the inner experience of the individual, the subjective aspect of life, and have discussed some of the structures and functions which determine its nature. We may now take up the life of external relations and make brief reference to some of the more important structures and functions which subserve this life.

The most important of these structures is the central nervous system, the cerebrospinal axis, with its outlying sensory and motor nerves, its receptor organs subserving the special senses, and its effector organs, the muscles. It is this system which determines the wider relations of the individual to the environment. The autonomic nervous system regulating the assimilation, the storage, the distribution of energy-supplying material, makes it possible for the voluntary nervous system to adjust the organism to the complexities of the external situation, to direct its impact on the environment in the light of the purposes of the individual. The two systems are in-

timately connected; the autonomic system, like the quartermaster's department, sees that the cerebospinal division has at its disposal a machine continuously prepared for efficient external action, while thanks to the activity of the cerebrospinal division the autonomic system has supplied to it that raw material which it is its business to assimilate and distribute. Thus both in the maintenance of the individual and of the species, both systems work together as specialized parts of an integrated whole.

The special structures by means of which the organism analyzes the impact of the environment upon it, are called the sense organs, and the energy transformed by these receptors is elaborated by the central nervous system, determines our picture of the world and furnishes the basis for behavior. The general framework of the picture of the world is the same for all members of the group, but the actual picture may vary from individual to individual in virtue of the comparative dominance or sensitiveness of one or the other sense. Some live in a world of sound, others in a world of form and color, others again in a world of abstract relations in which concrete experience of sound and color makes little appeal. A few notes may illustrate how variations in sensory endowment modify the personal experience and behavior of the individual.

Through the olfactory apparatus the individual can discriminate between chemical components in the atmosphere with a nicety much greater than that of any chemical reagent. The unaided sense of smell may detect the presence of the substance mercaptan if the amount be as

low as 1/100 mg. in 230 cubic meters of air.[20] To the dog, no doubt, the world is predominantly a world of smell. We like to think of the dog as contemplating his master with the eyes of affection and responding with purposeful gestures to the human companionship, but the reactions may be largely the automatic response to certain smells. To an individual with a keen sense of smell the earth on an April morning may be a place of deep delight and significance with a message which is lost on his anosmic companion. The sense of smell enters into our social relations, even into international relations. The Americans dislike the smell of certain races; the Chinese do not like the smell of an American. To some the sense of smell is such an obstacle to brotherly love that they can only be duly philanthropic at a reasonable distance from the objects of their philanthropy. There are individuals who find a special fascination in smells which repel the majority; perhaps it is such a basal endowment which leads a certain type of individual to smell out scandals and to be fascinated by what is unsavory. While the more aristocratic of the family of smells, the perfumes, are held in honor even although associated with the sexual life, other associations of the sense of smell lead to a certain degree of repression, so that the verbal symbol itself, the word smell, has a certain social obloquy. He who instead of using the Norman-French *odor* talks of plain Anglo-Saxon *smell* may be thought to be lacking in refinement or anxious to assert his individuality or his virility.

[20] Bayliss, William Maddock: *Principles of General Physiology.* London, Longmans, Green and Co., 1915.

The French poet Baudelaire apparently gloried in the sense of smell: "My soul flutters over perfumes as the soul of other men flutters over music." Perfumes are to him an inspiration:

Il est des parfums frais comme des chairs d'enfants,
Doux comme les hautbois, verts comme les prairies,
Et d'autres, corrompus, riches et triomphants,
Ayant l'expansion des choses infinies,
Comme l'ambre, le musc, le benjoin et l'encens
Qui chantent les transports de l'esprit et des sens.[21]

One characteristic of the sense of smell is its ability to call up in a flash with startling vividness remote memories. The sense of taste, so intimately associated with that of smell in the function of nutrition, has like the latter a delicacy superior to that of any chemical reagent. This delicacy may enable the gifted individual to earn his living as a tea-taster, it gives to the wine lover the pleasure of a fine discrimination, it furnishes a large element of the satisfaction in many lives, it may furnish a professor of English literature the stimulus to write an erudite and informative book.[22]

The sense of touch not only enables the organism to withdraw from harmful contacts, but also to discriminate between the objects with which it comes in contact; with the aid of this delicate discrimination the individual may carry out the finest manipulations, whether these be of purely utilitarian order as in the factory, or of great æsthetic significance as in the concert room.

[21] Antheaume et Dromard: *Poésie et Folie.* Paris, Octave Doin, 1908.
[22] Saintsbury, George: *op. cit.*

The sense of hearing, while not of such wide range as that of sight, with the aid of ingenious instruments brings one into close personal relations with other individuals remote in space and time. It is delicately responsive to the slightest changes in the utterances of others, due to moods of which the other may be unconscious or which he may be unwilling to disclose; the timbre of a voice even over the telephone may arouse profound dislike or like. The voice of the orator may carry us away although reason protest, the irrational content of the message is outweighed by the vibrant tones of the speaker. The sense of hearing enables us to make a synthesis of the complicated vibrations produced by an orchestra, and to get in touch with the inner life and personal values of a composer dead for centuries. The sense of hearing is of the greatest importance in the development of the individual; it is chiefly through the spoken word that the child receives its first instruction, enters into the cultural heritage, establishes intimate relations with the thought and outlook of others.

The sense of sight plays a dominant rôle in the formation of the world of man's experience. The memory of individual places, persons, experiences tends with most people to be largely a visual memory. Even when they consider non-spatial relations they may find it useful to express the relations symbolically in spatial terms, they may draw a diagram or a chart. The vividness of visual imagery varies greatly. According to Galton [23] the vivid-

[23] Galton, Francis: *Inquiries into Human Faculty and Its Development.* London. Messrs. Macmillan, 1883.

ness of visual imagery of those engaged in purely intellectual activity and abstract thought is apt to be less than in those whose interests and preoccupations are more with the concrete and the particular. Some individuals have visual imagery of such vividness that the image has much of the quality of the actual perception. Some orators are said to read from the visual image of their manuscript, even stumbling over an erasure in the original. Vivid visual imagery may play an important part in the creative work of the author and the artist. The German poet Otto Ludwig thus describes his procedure in poetical composition: ". . . then I see forms, one or several, in some sort of position and posture by themselves or opposite each other and this is like an etching in a single color, or more exactly like a marble statue or a plastic group on which the sun falls through a curtain which has that color." These figures and their pantomime represent the content of his fables. The author of Ekkehard, J. V. von Scheffel, gives an account of the composition of his famous romance; as he sat in the ruins of a wall a worthy company gathered around him, figures "whom the reader in the course of our study has learned to know, and who told him all as it has been reported clearly and accurately, and they nodded to him in a friendly way to write it down and to help them to a new existence in the memory of a later railway-infested present." Goethe has given a detailed account of the vividness of his visual imagery.[24]

A defect in the sense of vision or in the elaboration of

[24] Kroh, Oswald: "Die Eidetiker unter deutschen Dichtern." *Zeitschrift für Psychologie.* Bd. 85.

visual impressions, especially if not recognized, may influence the personality in many ways. Thus there are some individuals who, although of keen vision and of bright intelligence, are not able to grasp in the usual way the significance of the conventional visual speech symbols, and who find reading one of the most arduous performances. To such an individual the printed page may convey as little information as the Chinese symbols on a tea chest to the average person, and only with quite disproportionate effort and with special help can the individual utilize the treasures of thought represented by the printed page.

The subjective experience of the individual, his sources of satisfaction, his technical efficiency, his social affiliations, his contribution to the cultural values of his group are conditioned by the delicacy of the various senses and by the capacity for elaboration of sensory impressions. The personality of some is seriously warped owing to a sensory defect while in others, such as Helen Keller, the handicap may serve as a spur to the individual to mobilize all the resources of the personality.

The organ of supreme importance for directing the life of external relations is the brain, and through its unifying activity the processes underlying the internal equilibrium of the organism are integrated with those other processes which determine the behavior of the individual in relation to the total situation. In regard to the general economy of the body, in regard to congenital patterns of reaction, in regard to the simpler types of behavior, there is much in common between man and the

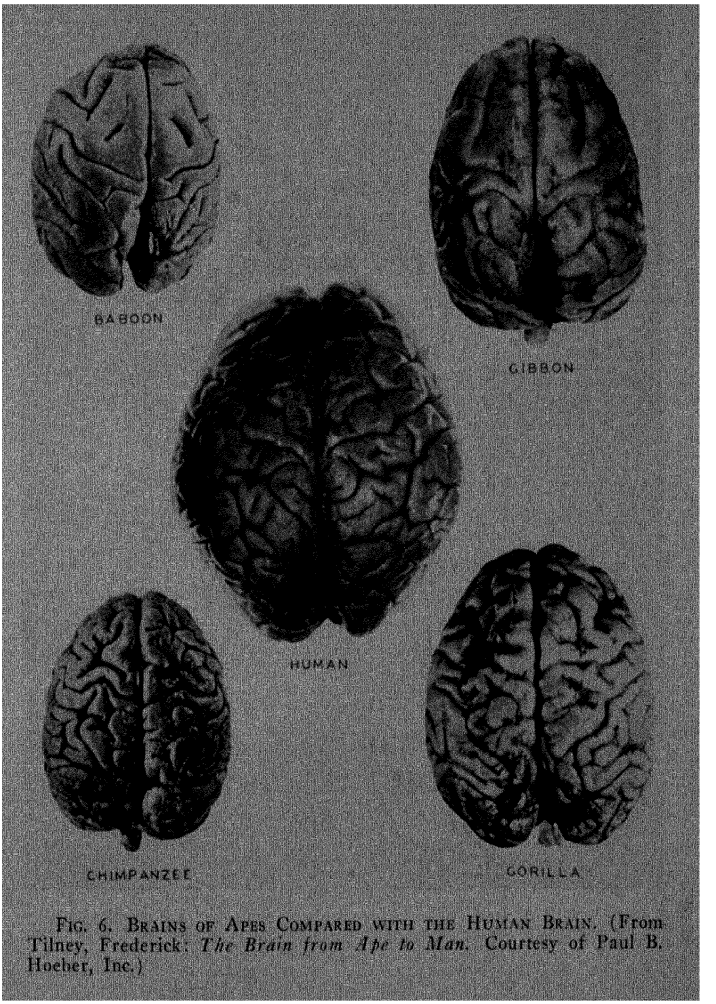

FIG. 6. BRAINS OF APES COMPARED WITH THE HUMAN BRAIN. (From Tilney, Frederick: *The Brain from Ape to Man.* Courtesy of Paul B. Hoeber, Inc.)

lower animals, and of recent years there has been an increasing realization of the rôle played by these common factors in the life of man. On the other hand, we recognize factors which give to human life its special quality, and which determine the constitution of the individual human personality; man lives as a member of a social group of extremely complex structure, he has developed in speech a complicated series of special symbols which furnish an intellectual instrument of great importance, he has learned to deal with abstractions and has formulated general laws, his unlimited curiosity makes him reach out to the extremes of space and time, he has postulated value in the universe, and has organized codes of highly complex nature. The attainment of this cultural level has been accompanied by a corresponding development of brain structure, illustrated by the contrast between the human brain and that of the highest apes (*vid.* Fig. 6).

The personality of the individual, his inner experience and external behavior, is not only a function of the fundamental chemical equilibrium of the organism and of endocrine and autonomic activity, it is also intimately dependent on the qualities of the brain with its specialized regional activities. In regard to adaptation to the external environment the brain makes possible a degree of discrimination and a nicety of manipulation beyond the range of the lower centers; in virtue of the activity of the brain the individual not only is conscious of sensory impressions from the spoken or printed words, but grasps the meaning of these symbols, utilizes the store of knowledge which is the heritage of his generation, works out

in a symbolic and anticipatory way the steps necessary to attain his purposes, accepts a code of values, organizes consciously the energies within his nature, gives expression to his individual interests, and makes his contribution to the activity of the group. The brain is a structure of incredible complexity and delicacy, the various regions of which have specialized activities all delicately integrated through connecting tracts of fibers, so that the organ works as a whole. The special function of each individual region is partly revealed when it is put out of commission by hemorrhage, tumor or other destructive process. We find that damage to one occipital lobe may wipe out the field of vision on one side, damage to both occipital lobes may cause total blindness; injury to both temporal lobes may cause complete deafness. Damage to other regions may cause paralysis of one or other of the limbs, or interfere with their finer adjustments. Other injuries may disturb the ability to grasp the symbolic value of the spoken or printed word, or the practical significance of familiar objects, or again the complicated thought processes may suffer from injury to the brain. A vast accumulation of individual observations of the result of injury to the brain, supplemented by the experimental work of the physiologists, has given us a clue to the specialized functions of numerous areas of the brain (*vid.* Fig. 7).

For the individual to meet the demands of the cultural environment in a normal way he must have a brain of a certain complexity of structure, in which each of the component regions makes its due contribution to the whole

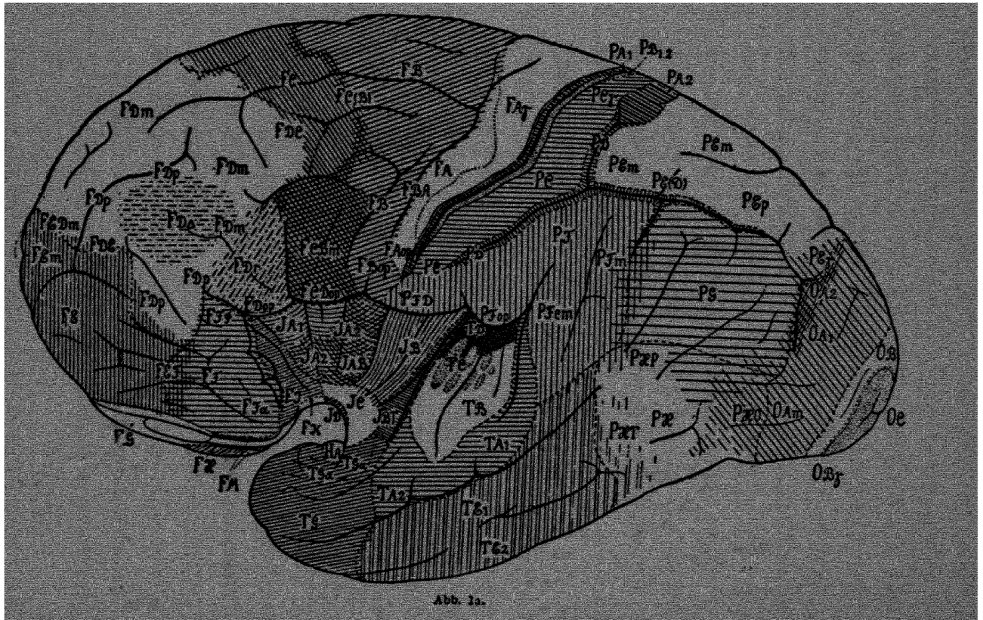

FIG. 7. MAP OF THE VARIOUS SPECIALIZED AREAS OF THE BRAIN.
(Constantin von Economo; Cytoarchitectony and Progressive Cerebration. *The Psychiatric Quarterly*, Vol. 4, No. 1, Jan., 1930. Courtesy of the State Hospitals Press, Utica, New York.)

and works in harmony with other regions. The inadequate development or the incidental impairment of any one of a number of special areas will bring about a corresponding defect in the adaptation of the individual, while the superior development of any of these special functions will make a special contribution to the total personality. One must not think of the functions of the various areas in too rigid a way, as if they were independent units which could be replaced by spare parts. It is better to keep to the actual facts, which show that there are numerous functions with regard to which certain areas have a critical significance, being areas of special vulnerability of these functions. With regard to many other functions we have at present no precise anatomical nor physiological data. We have to attribute to special qualities of the brain many variations in individual endowment; some persons with special sensitiveness and manipulative skill create works of art, music, painting, sculpture; some individuals have special endowment in relation to language, either in critical response to literary form, or in persuasive speech, or in creative writing; some have special ability in dealing through abstract thought with general relations, detached from the particular and the concrete; some individuals are endowed with a capacity for ingenious invention. Not only technical skill and efficiency, but the emotional life, the output of energy, the code of values, the sympathetic bond with one's fellows, are conditioned by the regional activities of the brain and by its unified activity as a whole.

Diffuse or localized disturbance of the mechanisms of

the brain may cause a striking change in the personality of the individual. Such a diffuse disturbance is caused by the virus of the disease epidemic encephalitis, the so-called "sleeping sickness." In this disease, with its protean clinical picture, not only may there be motor and sensory symptoms, and interference with the autonomic regulation of the system, there may also be an exaggeration of the crude appetites, special emotional instability, a lack of initiative and effort, a change in the feeling-tone of experience. A colored boy of thirteen suddenly developed epidemic encephalitis; previously good-natured, sociable, adaptable, he now became gluttonous, untrustworthy, disobedient, his schoolwork deteriorated; at the age of seventeen he was guilty of a sexual assault.[25]

Such a change of character in children after this disease is frequently observed, and has been described by numerous physicians. These children may show misconduct in the form of violent behavior and wilful damage, of repeated pilfering and lying; so long as they are not crossed they may be amiable, but they have little power of self-control, and react to thwarting by violence or screams.[26]

A lad of seventeen, after an attack of epidemic encephalitis, was conscious of a very definite change in his emotional life. He noticed that he had less pleasure in work, was somewhat unstable and irritable, had conflicts

[25] Bowman, Karl M.: *Personal Problems for Men and Women.* New York, Greenberg, 1931.

[26] Shrubsall, F. C.: "The After-history of Some Cases of Epidemic Encephalitis, with Especial Reference to Changes in Conduct." *Journ. of Neurology and Psychopathology,* iv, pp. 236-241, 1923-24.

with his fellow workers. He described the change in his nature as "a feeling of obstinacy," which he experienced as something distressing and depressing; he talked of the collapse of his whole life of feeling. He condemned without consideration the views of others, although conscious that he should not do so; he felt that he was unbearable and that his outbreaks of excitement were foreign to his true nature. He complained of his loneliness, his lack of social and love relations.[27]

In various forms of organic brain disease the first symptom may be some change in the appreciation of social values, some alteration in the output of energy or in the judgment of the patient. A gentleman of breeding surprised his family by asking a dinner guest what his income was; he was later found to have a brain tumor. Not infrequently a delinquent sex act in an elderly person previously upright, is associated with organic disease of the brain. In other cases the disease of the brain may first manifest itself in loss of energy or initiative, or in lack of judgment in business and financial affairs.

The most significant and most characteristic feature of the human brain is the enormous development of the frontal lobes. These lobes may suffer extensive damage or surgical removal without the development of any crude symptoms, but with a subtle effect on the finer qualities of the total personality: "The European War gave us the opportunity of observing in man the effects of purely destructive lesions of the frontal lobes comparable to those

[27] Kauders, Otto: "Ueber moriaartige Zustandsbilder und Defektzustände als Spätfolge von Encephalitis epidemica." *Ztsch, f.d. ges. Neur. u. Psych.*, lxxiv, p. 431, 1922.

produced by physiologists in animals. The most important of these on the psychological side were apathy, indifference, lack of interest in self and the external world, loss of initiative and energy, especially in mental work, defective attention and, associated with it, some degree of loss of memory for recent events, and frequently irritability and impulsiveness, often culminating in periods of excitement and restlessness. A release of the instincts from higher control has been also described, resulting in anti-social attitudes; in two cases that I have recently seen, eroticism was a pronounced feature, recalling Welt's description, forty years ago, of moral perversions in a series of cases of frontal tumors. . . ." [28]

The above summary and fragmentary review of the structures and functions of the organism in their bearing on human personality may entitle us to pass on to a discussion of further characteristics of the personality. In some parts of this review, particularly in regard to the endocrine and autonomic functions, as in the previous discussion of environmental influences, there may seem to have been a certain lack of respect for the austerity of scientific presentation. Precise observations and hypothetical constructions, *Wahrheit und Dichtung,* have been presented side by side. This has been done in the hope that the imaginative impulse in some of these formulations might give life to the more precise observations.

[28] Holmes, Gordon: "Discussion on the Mental Symptoms Associated with Cerebral Tumours." *Proceedings of the Royal Society of Medicine,* Vol. XIV, No. 1, May, 1931.

CHAPTER III

THE DEVELOPMENT OF THE PERSONALITY

THE universe is a continuum, but our finite equipment forces us to study it in a piece-meal way. So in studying the behavior and inner experience of the individual, we analyze the complex whole into constituent functions, while doing our best to keep in mind the organic unity of the whole. We have already discussed in provisional isolation certain of the factors which determine the personality of the individual. We have referred to its intimate dependence on the physico-chemical environment, to certain systems of the body with their special rôle in regard to the feelings and the emotions, the autonomic nervous system, the endocrine glands, the optic thalamus, to the mechanisms which are more directly involved in the life of external relations, the sensory equipment, the brain, the motor system. The highly evolved human brain is the central station in which the contributions made by all the other systems are coördinated into the activity of an integrated whole.

We have still failed to do justice to certain important considerations. The individual person is a node in the physico-chemical universe, he is inextricably involved in the tissue of his cultural environment, but he is also part of a continuum in time. He is one phase of the general continuum of life; he is deeply rooted in the past, his indi-

vidual life is merely the continuation of a life process which goes back for an indefinite period. To understand the person, we must pay attention to this past and see how it determines the personality.

The structure of the individual personality is a web of living reactions woven with material supplied by the experience of the individual on the warp of the original endowment or constitution of the individual. It is not an easy matter in the individual case to discriminate between those traits which are due to the congenital endowment and those due to the experience of the individual. The habitual mode of reaction of an individual is apt to be looked on as representing his constitutional endowment; yet the detailed review of the development of the individual may show that familiar traits had a definite origin in certain specific situations and experiences of the individual, perhaps in early childhood.

With the numerous variables involved, it is a task of the greatest difficulty and uncertainty to determine the general principles which regulate the original biological composition of that complex system of forces which in its later phases is called the personality. For a precise analysis of these principles we have to appeal to the biologist working with simpler material, which permits the use of the experimental method. As we have previously borrowed heavily from the chemist and the physiologist, so now we shall borrow from the biologist and take Professor Jennings [1] as our guide.

[1] Jennings, H. S.: *The Biological Basis of Human Nature.* New York, W. W. Norton & Co., Inc., 1930.

Figure 8 taken from his book may give us some idea of the person at the beginning of his individual existence, dependent it is true for nourishment on the environment, but with his own identity established, containing in himself the guiding lines of his destiny. It will be well throughout the whole of our discussion of the human personality and the environment never to lose complete sight of such a presentation of the human personality at an early stage.

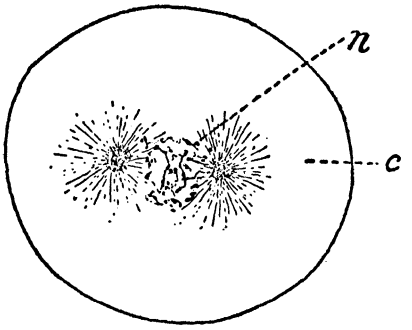

FIG. 8. INDIVIDUAL IN THE EARLIEST STAGE, THE FERTILIZED EGG OF THE STARFISH. *c*, CYTOPLASM; *n*, NUCLEUS, SHOWING THE SMALL DARK CHROMOSOMES. Based on the photograph in Wilson's *Atlas of Fertilization*, Plate VI, figure 24. (Columbia University Press, 1895.) (From Jennings, H. S.: *The Biological Basis of Human Nature*. Courtesy of W. W. Norton & Company, Inc.)

The individual life of this unicellular personality has begun with the union of two small pieces of living matter (the gametes), which come from the parents to form the fertilized ovum. In the figure (representing the person of a starfish, it is true) one sees certain dark bodies which when clumped together form the nucleus of the cell. The individual at this stage is a single cell with a single nucleus.

In the minute system of this fertilized ovum are somehow or other contained the dynamic conditions for absorbing matter and energy from the nutrient environment, for weaving that matter into the structure of its own system of forces, for growing and subdividing. Within the mate-

rial of this nucleus is hidden the capacity, which is transmitted to the cells produced by further divisions, to modify the protoplasm of individual cells into different forms with special functions arranged in an appropriate position in regard to the general plan of the organism. In this way are derived muscle cells, nerve cells, gland cells, etc. Within the system of forces which constitute the nucleus lies hidden the capacity to develop finally the mature organism, with not only the general characteristics of a human being, but with the special qualities of the individual race, and even with the traits of the family group. Within the nucleus of the fertilized ovum lie the factors which determine the stature and the general bodily configuration of the individual, the color of his hair and eyes, the component segments of the limbs, the structure of joints and bones, the characteristics of the blood, the keenness of sight and hearing. Within this mysterious nucleus of the fertilized ovum lie forces which determine the ability of the individual to grasp the environment through the senses, to remember and elaborate impressions, which determine the curiosity to know, the eagerness to search, the ability to find the general truths that lie behind the transitory phenomena. It is in virtue of the composition of this original cell that we have the creative ability of the painter and of the musician, on the one hand, and the limitations of the color-blind and the deaf-mute, on the other. It is through the medium of this minute system of forces that the heritable defects and talents of the parents are transmitted to their children. The potentialities in this minute cell may never be real-

ized owing to the absence of suitable environmental conditions, but the individual can never develop abilities and traits of character beyond those allowed by the constitution of this system of forces. The highest flight of the poet, the most elaborate formulation of the mathematician, the most complex picture of the world presented by the physicist are all rendered possible through the special organization of the minute system of forces contained in the genes or constituents of the nuclear chromatin. The poet's reference to birth

> *Not in entire forgetfulness*
> *And not in utter nakedness*
> *But trailing clouds of glory do we come*
> *From God, who is our home.*

may not express the situation in the idiom of the biologist, but whoever contemplates the whole sequence of the individual life from the original union of gametic material to the highest achievements of the individual in his personal history must contemplate with the greatest respect and amazement the microscopical system, which later manifests itself in these achievements, and may feel that the symbols used by the poet are appropriate symbols for such mysteries.

The nucleus of the fertilized ovum, which is the structural basis of the personality at the beginning of its career, has been studied by the biologist. It is possible to see under the microscope in certain phases of the cell that this nuclear material is composed of a series of strings or segments of a long coil, and that these segments (chromosomes) contain a long series of paired

particles or clumps (chronomeres). In Figure 9 one sees the actual appearance of this nuclear coil with its series of particles. These paired particles probably represent the actual position of the special mechanisms or systems

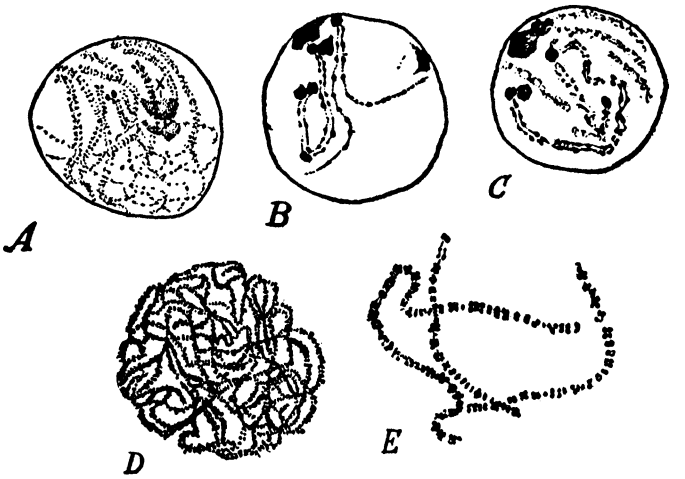

FIG. 9. STRUCTURE OF CHROMOSOMES AS SEEN UNDER THE MICROSCOPE, SHOWING THE MINUTE PAIRED PARTICLES (CHROMOMERES) OF WHICH THEY ARE COMPOSED. *A, B, C,* CHROMOMERES IN THE CHROMOSOMES OF THE GRASSHOPPER, AFTER WENRICH (1916). *D, E,* CHROMOMERES IN THE CHROMOSOMES OF THE LILY, AFTER BELLING (1928). *E* SHOWS A PORTION OF *D* AT A HIGHER MAGNIFICATION. THE CHROMOMERES PROBABLY SHOW THE POSITION OF THE GENES. (From Jennings, H. S.: *The Biological Basis of Human Nature.* Courtesy of W. W. Norton & Company, Inc.)

which are the carriers of specific properties of the organism. These special mechanisms are the genes or the carriers of inherited traits which the study of the facts of heredity forces us to postulate as theoretical structures, while this hypothesis receives a certain degree of confirmation from microscopical observation. Figure 10

presents in a schematic way the nuclear coil of material unrolled and drawn out, and with the indication that one-half of this coil is derived from the reproductive cell of the mother and one from the reproductive cell of the father.

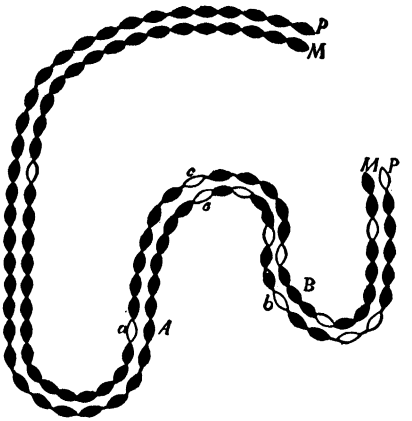

FIG. 10. DIAGRAM TO ILLUSTRATE THE ARRANGEMENT AND ACTION OF THE GENES IN THE GENETIC SYSTEM. THE GENES, REPRESENTED BY THE SPINDLE-SHAPED BODIES, ARRANGED IN CONSECUTIVE ORDER, IN LONG PAIRED STRINGS, THE CHROMOSOMES. ONE STRING (*P*) OF THE PAIR COMES FROM THE FATHER, THE OTHER (*M*) FROM THE MOTHER. THUS THE GENES THEMSELVES ARE IN PAIRS, ONE MEMBER OF EACH PAIR FROM THE FATHER, ONE FROM THE MOTHER. THE GENES SHOWN IN WHITE ARE TO BE CONCEIVED AS DEFECTIVE GENES. (From Jennings, H. S.: *The Biological Basis of Human Nature.* Courtesy of W. W. Norton & Company, Inc.)

It is through these actual biological structures and functions that the characteristics of the parents are transmitted to the children, and the personality of the individual in so far as it is dependent upon the original endowment and not upon environmental factors, is determined by the organization of this coil of nuclear material with its contained genes. In the determination of the characteristics of the adult organism the special qualities of the cytoplasm, of the general protoplasm of the cell, seem to play a less specific rôle, and in the human being the cytoplasm of the fertilized ovum is almost altogether derived from the mother. The nuclear material with the included genes is continually acting on

and is influenced by the cytoplasm of the cell, and gives to the cytoplasm of the cells derived from further division its special direction and structure.

The nuclear mechanism is also a determining influence in the interplay between the cell and the environment, and according as the environment varies the special direction of development of the individual cell may be altered under the influence of the nucleus.

Owing to the fact that in the fertilized ovum there is a double set of genes, the lack of a gene from one parent may not manifest itself in the characteristics of the individual, for the remaining gene may be sufficient to guide aright structure and function. The absence of that gene may be indicated in the following generation only when the individual is mated with another with the same defect in genetic equipment, perhaps not revealed by actual function and structure. The offspring which failed to receive the necessary gene from either parent would show a defect in that trait, which had been present in each parent through the presence of only one normal gene.

The breeding experiments of the biologist have clarified a complex situation by demonstrating the laws of Mendelian and sex-linked inheritance, they have also revealed the extraordinary complexity of the determination of even simple bodily traits. In the fruit-fly (Drosophila), an insect which has contributed much to our knowledge of heredity, the eye color is usually red: "It is proved that red eye color in Drosophila depends upon fifty different genes, with others being added as time

passes. It is demonstrated that fifty different parts of the germinal apparatus coöperate to produce this unit character. The concept of red as a unit, depending on its single representative, is demolished. And this is a type; its history shows what is discovered when any characteristic is extensively studied." [2]

This complexity of the situation is well expressed in the words of another investigator: "The earlier, premature idea, that for each character there is a specific gene—the so-called unit-character—was never a cardinal doctrine of genetics, although some of the earlier popularizers of the new theory were certainly guilty of giving this impression. The opposite extreme statement, namely, that every character is the product of all the genes, may also have its limitations, but is undoubtedly more nearly in accord with our conception of the relation of genes and characters. A more accurate statement would be that the gene acts as a differential, turning the balance in a given direction, affecting certain characters more conspicuously than others. But let us not forget that the environment may also act as a differential, intensifying or diminishing, as the case may be, the action of the genes." [3]

The color of the eye of a fruit-fly is a comparatively simple quality in comparison with the structure of the human brain, whose functions include delicate sensory discrimination, nice motor skill, symbolical representa-

[2] Jennings, H. S.: *op. cit.*, p. 194.

[3] Morgan, T. H.: "The Rise of Genetics." *Science*, Vol. 76, No. 1970, Sept. 30, 1932.

tion of the outer world, artistic appreciation and creation, ethical evaluation and striving. Yet for this simple structure of the fruit-fly at least fifty genes are necessary, some laying a foundation on which the eye is built up, others laying a basis for the color itself, others helping to produce the proper chemicals for the pigment. One may be staggered at the thought of the infinite subtlety of the genetic mechanisms for determining the structure and functions of the human brain and the other bodily systems, and baffled by the difficulty of reaching precise conclusions about the facts of human heredity; one thing seems certain, namely that the principles demonstrated by the breeding experiments of the biologist have general validity, and that the congenital endowment or gametic equipment of each human being is a given system of great complexity determined by the same genetic laws which can be more simply traced in the case of the banana-fly or other simpler organisms.

With regard to the personal qualities of the human being, it is difficult to pick out special traits which are as definite and as susceptible of precise measurement as the traits with which the biological geneticist works, yet even in regard to complicated functions the general principles of heredity may be exemplified. Musical ability is not a simple trait, but the family tree of Johann Sebastian Bach (Fig. 11) illustrates the transmission of exceptional musical endowment through several generations.[4] A similar transmission of musical endowment is shown in the

[4] Baur, Erwin; Fischer, Eugen; Lenz, Fritz: *Human Heredity*. New York, The Macmillan Company, 1931.

families of Beethoven, Brahms, Schubert and Liszt. As with musical talent, so with talent in painting and sculpture which tends to run in families: "Among the kindred of Titian there were nine painters."

The capacity for technical invention can occasionally be traced through several generations. Mathematical

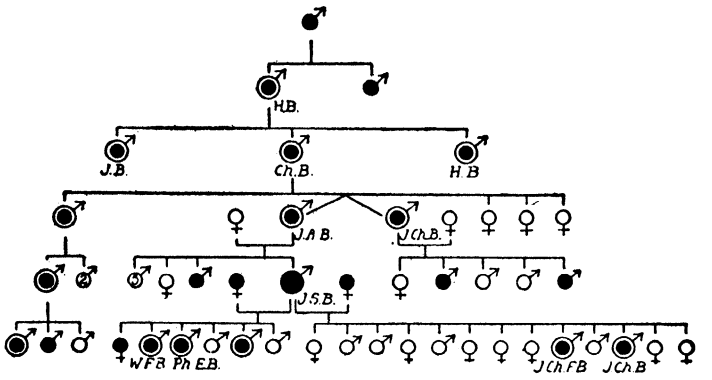

FIG. 11. EXCEPTIONAL MUSICAL TALENT IN THE BACH FAMILY. THE BLACK CIRCLES SURROUNDED BY RINGS DENOTE CELEBRATED MUSICIANS. THE LARGE BLACK CIRCLE IN THE MIDDLE OF THE FIGURE INDICATES JOHANN SEBASTIAN BACH. THE PERSONS INDICATED BY SMALL WHITE CIRCLES ARE NOT TO BE REGARDED AS HAVING BEEN ALL UNMUSICAL, BUT IT IS NOT RECORDED THAT ANY OF THEM HAD EXCEPTIONAL MUSICAL GIFTS. AMONG THE 19 CHILDREN OF JOHANN SEBASTIAN BACH, NOT ONE OF THEM WAS ALTOGETHER UNMUSICAL. (From Erwin Baur, Eugen Fischer, Fritz Lenz: *Human Heredity*. Courtesy of The Macmillan Company.)

talent shows evidence of being a transmittable quality. In other families one finds evidence of general distinction running through several generations, while it might be difficult to specify the exact functions at the root of the distinction and to explain why in different members of the family the field of distinction varied.

For exceptional achievement there must be a number

of factors difficult to define precisely. One of the authors of the book from which the above conclusions are taken,[5] tries to give precision to the traits which are specially valuable in different fields of human activity and one may briefly present his views. For a man of learning, receptivity and a good memory are important; this is required by men of letters, historians, theologians. A fertile imagination is indispensable to the artist and the investigator, but the investigator requires strict self-criticism. The philosopher must "have an incorruptible sense of truth and must never shrink from unpalatable verities." The statesman and the military commander must have a good knowledge of human nature, with a vigorous will to power and exceptional foresight. The creative artist, the poet and the man of letters must have a lively imagination and a well-developed plastic faculty, along with imaginative insight. Very favorable to exceptional achievement is good bodily health. Indispensable is a lively interest in some particular field of knowledge, especally if made effective by a powerful impulse to self-assertion. Ambition or vanity is one of the most important stimuli to great achievement.

Such a tentative analysis of the qualities which contribute to various forms of distinction obviously can serve only as a first step toward a more precise investigation of a difficult field. How far one may be tempted to go in tracing individual traits to hereditary influences is illustrated by the somewhat surprising analysis of the personality of Francis Galton by his biographer, a mathe-

[5] Lenz, Fritz: *op. cit.*

matician of ability.[6] Pearson traces the individual physical and mental qualities of Galton to hereditary influences in a specific way which it would be difficult to substantiate. Thus we find his steadfastness of purpose connected with ancestors with many years of gaol experience, while his power of self-control and of inspired words is related to other members of the family tree. To three of his predecessors is traced the desire for terse expression and the demand for simple language, while his gift of mechanical ingenuity receives an equally precise but hazardous interpretation.

So much for the genetic equipment of the person and for the derivation and constitution of the original system of forces with which he starts his individual existence; many months must pass before the cue comes for his entry on the world stage and he assumes a recognized *persona.* During these months of intra-uterine existence the organism is covering the first stage of its pilgrimage under the guidance of its germinal make-up or genetic complex, which "acts as a pilot, steering and directing the developmental processes toward a specific goal—we might better say, toward an ideal goal, since we shall find that it is questionable whether development ever does produce a full expression of the actual hereditary background. The pilot in this case is never completely able to master all the pressing currents of the environment. The mature individual is the final product of a definite germinal complex, expressing itself through development under a par-

[6] Pearson, Carl: *The Life, Letters and Labours of Francis Galton.* Cambridge University Press, 1914.

ticular set of conditions. In other words, the development of the person depends, on the one hand, on the exact nature of the original germinal composition, and, on the other hand, upon the varying elements which the environment may present." [7] The author from whom we quote describes a striking example of the influence of the environment on the early development of an organism. If the eggs of the Atlantic Coast minnow (Fundulus heteroclitus) be developed in sea-water, to which have been added certain salts or other substances, many of the embryos will develop a median or cyclopean eye, instead of the usual two lateral eyes: "We might surmise from such occurrences, as Professor Goodrich, the British zoölogist, suggested some time ago, that had the ocean water chanced to have this artificial composition as its usual state, fish would normally be single-eyed cyclopean animals. In other words, the genetic composition of these fishes causes them to develop two eyes in normal sea-water, but the same genetic composition gives rise to a single cyclopean eye when an excess of magnesium chloride is added to the sea-water. If sea-water normally had the composition which causes fish to develop with the cyclopean eye, and an experimenter should develop the eggs of fish in a solution of the same composition as our now ordinary sea-water, he would find them giving rise to fish with two lateral eyes instead of the median one; and these two-eyed specimens would appear to this imaginary investigator as monsters. What we consider to be normal

[7] Stockard, Charles R.: *The Physical Basis of Personality.* New York, W. W. Norton & Co., Inc., 1931.

animals are simply animals normal for the present-day environments in which they develop. If the earth had evolved a somewhat different condition of soil, water or air, the organic population of the world would have been quite other than we see to-day." [8] The importance of this early environment for the personality is admirably summed up by Stockard as follows: "We have found that the influence of the surrounding elements are important factors in determining the nature and success of the final personality. There is no question here of the degree of importance between the genetic background and the developmental environment; neither is sufficient without the other. Without genetic basis there is no individual, and without a suitably arranged complexity of environment the complete genetic basis is unable to produce the normal individual. The interaction between the individual and the environment is continuous from the germinal beginning to the end of life, and it is mutual; each modifies and affects the other. The individual and the environment are not separate; they are parts of a larger arrangement." [9] The study of the development and growth of the organism thus reënforces the view of the relation of organism to physico-chemical environment, based on the behavior of the mature organism, which was outlined in the first lecture.

At the beginning of its individual career the organism is bathed in the nutritive tissue juices of the mother;

[8] Stockard, Charles R.: *op. cit.*
[9] Stockard, Charles R.: *op. cit.*

later with the development of its circulatory system it becomes dependent on the circulating medium of the mother. Deleterious factors in this medium of the mother, due to disorders of nutrition, intoxication or infection, chronic or acute, may have a detrimental effect on the development of the organism. Unknown factors may modify the normal rate of development of the various systems of the embryo and thus give rise to complicated disorders of structure and of function.

Popular belief clings to the idea that the preoccupations and emotions of the expectant mother have a direct influence on her offspring, and in the *Ordeal of Richard Feverel* we have the admirable picture of Lucy devoting herself to a course of informative and elevated reading for the sake of her unborn child. The popular belief is, however, not corroborated by accurate observations and the mental state of the mother can act on the off-spring only through its indirect effect on her glandular activity and general nutrition.

After nine months of intra-uterine existence, during which the single-celled individual has been transformed into the complicated person who is greeted by the obstetrician, occurs the critical experience of birth. This is a delicate and complicated procedure, not without its special risks; misadventures of various types are possible and the later personality of the individual may bear the imprint of crude or subtle birth injuries.

The development of the personality from birth until maturity is described by the poet in the following lines:

Heaven lies about us in our infancy.
Shades of the prison-house begin to close
Upon the growing Boy,
But he beholds the light, and whence it flows,
He sees it in his joy;
The Youth, who daily farther from the east
Must travel, still is Nature's priest
And by his vision splendid
Is on his way attended;
At length the Man perceives it die away,
And fade into the light of common day.

In this journey westward, with the introduction of complex cultural influences, we shall still have to keep in mind those underlying forces, which the biologist and the physiologist have emphasized: "The same person is constitutionally a different chemical make-up at one age or life period from that which he or she may be during another period. The secretions and the chemical complex in the child after puberty obviously differ from those found in the baby's body. It is equally certain that the chemical constitution of a senile person, with degeneration of the sex-glands and general sclerosis, must differ from that of a vigorous adult person with a complete range of internal secretions. It is a matter of fact that the same individual is constitutionally a changed animal complex at several different times during his existence, and his personal behavior is equally different at these several times." [10]

The biologist, in studying the developing egg with its water content, has shown that it is impossible to make a rigid distinction between cell and environment, the physi-

[10] Stockard, Charles R.: *op. cit.*, pp. 272-273.

ologist [11] has shown in his study of respiration that the division between organism and environment is an artificial abstraction, in a similar way the psychologist finds that the personality of the individual and the cultural environment can be separated only provisionally for purposes of analysis and description, while the concrete facts are the phenomena of an individual who is an integral part of a social group. The individual personality does not develop or evolve in the sense of merely unrolling a latent endowment and disclosing a foreordained program; it does not develop in a physico-chemical or cultural vacuum, but under the influence of the physical and social environment it receives direction and completes its organization. The personality of the youth and of the adult, determined in part by the special congenital tendencies and aptitudes and by the qualities of the component systems of the body, bears as well the imprint of his individual past.

In the inner life of feeling of the adult, in his grasp of the outside world and his attribution of values to it, in the output of his energy and the systematic direction of his activity, in his relation to the social group, the individual is not merely the result of the evolution of a special congenital endowment, modified by incidental interference with this or that gland or other organ, he is the product of the interaction of the original system of forces of the personality with the cultural environment which surrounds and penetrates it. This cultural environment

[11] Haldane, J. S.: *Respiration.* New Haven, Yale University Press, 1922.

molds the personality in infancy through influences which are partly casual and haphazard, and which are partly explicitly recognized and consciously exerted. The cultural environment molds the personality during the school period in a conscious and deliberate way for the sake of the social weal as well as in the interests of the individual. Special cultural environments through influence consciously or unconsciously directed, mold the personality of the youth and adult and knit it into the structure of the special social group, religious, racial, occupational, political; in addition the individual is conditioned by the incidental and unsystematized experiences of life, by contact with individual persons and situations.

The dynamic system of the personality of the infant is at first dominated by the fundamental biological processes, by the immediate appeal of the appetites, by the compelling influence of pleasure and pain. As development proceeds, behavior comes in addition to be regulated by goals of longer range, of broader import, more clearly recognized; with the continuing output of its energy the organism comes to realize its personal identity, accepts personal responsibility, strives for self-expression and the attainment of value.

The progressive recognition by the organism of its personal identity and of its purposes proceeds at the same time as the development of its relations with other persons; these relations with parents, siblings, playmates, enter deeply into the structure of the developing personality.

At the same time, in his contact with the outside world

the individual is beginning to construct his symbolic representation of it, and in this representation his spontaneous individual constructions are soon modified and overlaid by the accepted beliefs of the cultural environment.

The personality of the adult cannot be adequately analyzed by merely studying in cross-section his behavior and the introspective account of his inner experience. One must take a longitudinal section of the development of the personality, and penetrate beneath the level of ordinary introspection. The adult personality bears traces of habits formed in infancy and childhood, of the likes and dislikes of this period, of the early code of values; in the adult personality traits may be the disguised expression of, or the defensive reaction to, repressed forces not recognized by simple introspection, which in infancy and childhood were allowed overt expression.[12]

The reconstruction of the personality in infancy and in childhood is a difficult matter. Accurate, unbiased and comprehensive observations of infants and children are of comparatively recent date. The inner life of the child eludes the adult grasp; the memory of the adult of his own early experience requires to be scrutinized with care.

The poet tells us that "trailing clouds of glory do we come from God, which is our home"; and some investigators present to us the experience of the unborn child as a condition of bliss or Nirvana, which leaves an indelible imprint on the personality and exerts a never-

[12] Freud, S.: *Hemmung, Symptom und Angst.* Leipzig, Wien, Zürich, Internationaler Psycho-analytischer Verlag, 1926.

ending fascination. It is not necessary to accept this presentation of the hypothetical intra-uterine state of satisfaction, with the subsequent nostalgia. We have no guarantee that the prenatal state is one of bliss; the unborn child may have its own troubles with its increasing acrobatics. As to claims about the imprint left on the personality by the devastating experience of birth, these constructions are hypothetical, of dubious value and subject to no control. We can hardly hope to reconstruct the inner experience of the infant, and may leave for academic discussion such problems as when does the infant realize that it is a self with a special identity.

If it is impossible to penetrate into the inner experience of the infant under observation, it is a matter of the greatest difficulty to reconstruct one's own individual past beyond a certain point. Supposed memories of experiences in the first or second year of life must be accepted with great reserve. Barrie [13] tells us that his clearest memory of a snow storm is of one that happened before he was born, but which through innumerable talks with his mother had become a vivid part of his personal experience: "I have seen many weary on-dings of snow, but the one I seem to recollect best occurred nearly twenty years before I was born. It was at the time of my mother's marriage."

The memory of the Burman [14] carries him back beyond infancy to a previous life: "This belief (in a previous

[13] Barrie, J. M.: *Margaret Ogilvy by Her Son.* London, Hodder and Stoughton, 1897.

[14] Hall, H. Fielding: *The Soul of a People.* London, Macmillan and Co., 1902.

life) is not to a Burman a mere theory, but is as true as anything he can see. For does he not daily see people who know of their former lives? Nay, does he not himself, often vaguely, have glimpses of that former life of his? No man seems to be quite without it, but of course it is clearer to some than others." A little Burman boy of six, telling of his previous existence, said: "It used to be so clear, I could remember everything; but it is getting duller and duller, and I cannot now remember as I used to do."

For over a decade the details of infant behavior have been industriously observed, accurately recorded and carefully analyzed. Psychologists, sociologists, teachers peer at the infant and young child through one-way screens, take moving pictures and weigh every detail of the infant's behavior. They have studied individual variations in its spontaneous and reactive behavior, language, reaction to persons, rate of learning, sensory acuity, type of play, etc. More important than the very precise observations on the special skills of the child has been the fuller insight into the way in which the developing individual seeks satisfaction from the environment, strives to exert power and attain personal value, establishes personal bonds with others, adapts himself to social restrictions, elaborates his picture of the outside world and a code of values. The way in which the individual meets the earlier tests of life may serve to determine or at least to foreshadow his later adaptation. The development of the personality may not proceed uniformly, and there may be a partial arrest of development with regard to

certain functions; as the personality is a well-integrated system this partial arrest will modify personal characteristics in a complicated way.

A few topics may be chosen to illustrate in a specific way the development of the personality.

One may first consider the emphasis which the individual lays on the self, on the maintenance of his own integrity, on the expression of his own tendencies, on the exertion of his own power, on the attainment of his own pleasure. The same quality of the organism, which makes it so tenaciously maintain its biological integrity under the most varied circumstances, seems to express itself in the personality in the form of self-assertiveness. The emphasis on the individual self may take the form of assertion of power, of craving for personal value, of insistence on individual pleasure.

Individuals differ from early infancy in their tendency to self-assertion and in the degree of their resistance to or resentment of external factors which thwart their activity, and throughout the life of the individual we must reckon with this factor, this tendency to self-assertion, this resistance to external constraint, this desire for domination. The infant or the young child, when thwarted even by an inanimate object, may show anger, and with his animistic outlook may punish the offending object. Darwin's child at seven months screamed with rage because a lemon slipped from his grasp, at eleven months he rejected and beat the wrong plaything. In the very earliest stage of being trained or adapted to the orderly needs of the social group the individual child may show

a varying degree of protest. This protest may show itself in regard to the conditions of nutrition, elimination, sleep, dressing. The infant may indicate in unmistakable terms that it wants what it wants when it wants it. In regard to its relations with other persons, the infant or young child may show its self-assertiveness in its efforts to dominate the parents and the playmates. In adult life the self-assertive tendency may be an outstanding personal trait, and if not accompanied by adequate social feeling and tact, or balanced by special endowments, may be the source of internal conflict and external friction.

The assertion of self may take the form of domination or the active expression of power or the form of passive resistance to domination by others. A striking example of resistance to domination by another was given in childhood by Robert Owen. He had under a misunderstanding refused to do something requested by his mother: "My father was called in, and my refusal stated. I was asked again if I would do what my mother required, and I said firmly 'No,' and I then felt the whip every time after I refused when asked if I would yield and do what was required. I said 'No' every time I was so asked, and at length said quietly and firmly, 'You may kill me, but I will not do it,' and this decided the contest. There was no attempt ever afterwards to correct me; but this difference was soon made up on both sides; and I continued to be the favorite I had always been." [15]

Some individuals derive their chief satisfaction from

[15] Cole, G. D. H.: *The Life of Robert Owen.* London, Macmillan and Co., 1930.

their exercise of power, while they may be little influenced by the pleasures of the appetites and the senses, and the other sources of satisfaction. Other individuals are hedonists, squeezing the last drop of pleasure from life, clinging tenaciously to the pleasures of various sources available at its different periods while they may not be sensitive to the satisfaction derived from domination and the exercise of power.

The rôle played in the personality by the directing influence of pleasure and pain is very important. Pleasure is a bonus supplied by nature as an additional incentive to carry out functions of adaptive value, and pain is a useful indicator of external and internal dangers. From the point of view of the social group it is the adaptive value and efficiency of behavior which is important, not the individual pleasure; from the point of view of the individual the personal pleasure may assume undue importance and the efficiency and social value of behavior may be subordinated.

From the day of birth onwards in the constant interplay between the individual and the cultural factors of the environment, one sees the important rôle played by the self-assertive and the pleasure-seeking tendencies in the development of the personality. The infant finds that its spontaneity is thwarted, that cultural restrictions exist; in regard to food, sleep and elimination it first comes across that profound principle that order is heaven's first law, and its efforts to get pleasure from the exercise of its many-sided endowment come up against rigid cultural restrictions.

In the function of nutrition more is involved than the simple chemical and physiological processes. In the infant, nutrition involves the stilling of the pangs of hunger, the gratification of the palate, the pleasure associated with the act of sucking, the satisfaction of personal contact with the nursing mother. In virtue of its special endowment the infant may lay more stress on one or the other of the above factors. Some infants seem to get an additional bonus of pleasure by regurgitating and ruminating their food. Others get an unusual degree of pleasure from the act of sucking, quite apart from the act of nutrition; they may suck their thumb or fingers with great assiduity, may develop associated movements such as genital manipulations, may attain a climax of satisfaction comparable to a sexual orgasm. As there may be individual variations in the source of the pleasure-components in the act of nutrition, so there may be variations in the degree of the infant's self-assertion in regard to the same function. In a less sophisticated period the hungry infant's cry represented the categorical imperative, and demand was immediately followed by supply. The modern infant is no longer supplied on demand, but at a time determined by the principles of infant-feeding. A self-assertive personality may not graciously accept this schedule and adapt itself to the external order, but may make vigorous and perhaps successful attempts to impose its will on the attendant personnel. Even after infancy the function of nutrition may offer a convenient exercise ground for personal self-assertion. The child may exert a stubborn choice with regard to articles of diet and time

for feeding, and in withstanding the tears, supplications or imprecations of the attending personnel he may have the satisfaction of self-assertion. The apparent lack of appetite in the young child is often intelligible as part of the behavior of a child defending the integrity of its own personality against external domination, and asserting its right of self-determination; for these purposes the indifference to food or anorexia is a useful defensive and offensive weapon.

As with nutrition, so with elimination the function has to be considered as more than an impersonal physiological process, it is one part of behavior; in this simple activity complex personal factors are involved and the total personality may bear the imprint of its response to this apparently simple task. It is only within comparatively recent times that this topic has been considered worthy of detailed analysis. To the child it is a topic of considerable importance and contributes to its early vocabulary. Darwin [16] in his study of the language of the infant makes practically no reference to this contribution, while Taine [17] shows less reserve. The omission by Darwin of the child's references to elimination illustrates the familiar reaction of the well-bred adult to a tabooed topic, and shows that social taboos may penetrate into the atmosphere of scientific discussion. Prevailing cultural values not only hamper the presentation of such a topic, they distort our observation of child development and blind

[16] Darwin, Charles: A Biographical Sketch of an Infant. *Mind,* No. 7, July, 1877.

[17] Taine, M.: "On the Acquisition of Language by Children." *Revue Philosophique,* No. I (Jan., 1876). Translated in *Mind,* No. 6, April, 1877.

us to the persistence in the adult of crude tendencies which once were frankly on the surface. The infant and young child are frankly and naïvely interested in the process and the products of elimination; its early satisfaction with its own creative act is heightened by the overt enthusiasm of the attending personnel. This personal experience may contribute something to its first ruminations as to the workings of nature and the origin of babies. In its eliminative activity the child not only may receive sensory pleasure and important organic satisfactions, it may find a means of self-assertion and domination. Many cases of early constipation are to be considered as indicating self-assertion rather than physiological inadequacy, and castor oil may be supplied when the problem is really one of social adaptation. Of importance in the development of the personality is the ensuing stage when the frank and joyous expression of interest in excretory matters succumbs to the prevailing social taboo. The child finds that matters of interest and prestige have become topics of disgust and of no official value; references to them are received in a chilly and discouraging way, perhaps meet punishment. Any interest in the topic which persists must lead a subterranean or disguised existence. Occasionally when inhibition is removed by anger, the child breaks forth with the tabooed words, and such a word has become the classical expression of anger for the most cultured nation in Europe.

The influence on the later personality of these fundamental activities, which during infancy play such a large part in the total program of the individual, is difficult to

estimate precisely and requires much further investigation. Into these earlier activities, as into the later activities of life, there enter the desire for pleasure of various sources, the craving for self-expression and the resentment of restriction. In these earlier, as in the later, activities of life the relation of the individual with other persons plays a rôle, with subtle combinations of love and hate. In these early activities one sees already manifest traits which will become more decided in later life, but it is difficult to make trustworthy correlations between earlier and later traits and still more precarious to interpret the significance of the correlation.

Many investigators accept the correlation made by Freud [18] between a triad of adult personal traits—penuriousness, obstinacy and excessive orderliness—and an unusual childhood interest in the function and products of elimination. It may be more difficult to accept the detailed correlations made by his pupil Abraham [19] between the infantile nutritive activity and adult traits of personality. Thus we are told that, where sucking in infancy was undisturbed and pleasurable, individuals bring into adult life a deeply rooted conviction that everything will always be well with them. They have an imperturbable optimism, expect an *alma mater* always to look after them, are therefore inactive: "We can recognize in them individuals who have been over-indulged in the sucking period. They expect mother's breast to flow for them

[18] Freud, S.: "Character and Anal Erotism." *Collected Papers,* Vol. II. London, The Hogarth Press, 1924.

[19] Abraham, Karl: *Selected Papers on Psycho-Analysis.* London, The Hogarth Press, 1927.

eternally as it were. . . . A character thus rooted in oral erotism influences the entire behavior of the individual, as well as his choice of profession, his predilections, and his hobbies. We may cite as an instance the type of neurotic official who is only able to exist when all the circumstances of his life have been prescribed for him once and for all." Early nutritive experience of this type is held to explain the behavior of a man, who "renounced all ideals of personal success in favor of receiving an assured and regular income." While those with facile nutritive satisfaction in infancy are said to show the above characteristics, different traits are claimed for those who had an unsatisfactory sucking period: "In their social behavior these people always seem to be asking for something. The manner in which they put forward their wishes has something in the nature of persistent sucking about it. . . . They cling like leeches to other people. They particularly dislike being alone. Impatience is a marked characteristic with them."

Osler [20] must have had some premonition of the length to which the facile correlation of adult traits of personality with infantile experience would go when he made his humorous speech at a dinner in honor of a distinguished pediatrician. He stated that the efforts of the Pediatric Society to encourage breast feeding had been influenced "by an exhaustive collective investigation which has been made on the future of bottle-fed babies, in which it is clearly shown that intellectual obliquity, moral perversion and special crankiness of all kinds result directly from the

[20] Cushing, Harvey: *The Life of Sir William Osler,* Vol. I. Oxford, At the Clarendon Press, 1925.

early warp given to the mind of the child by the gross and unworthy deception to which it is subjected . . . a deception which extends through many months of the most plastic period of its life. . . . The collective investigations demonstrate that all silver democrats, many populists, and the cranks of all descriptions have been bottle-fed and show the characteristic nose tip."

Among the forces which constitute the system of the personality and which perforce we study piecemeal, those related to the function of reproduction play an outstanding rôle. In regard to this topic data are inadequate, points of view vary, interpretations are divergent, mutual understanding is difficult.

The dynamic system represented by the fertilized ovum has qualities which not only determine the progressive differentiation of the original cell into the mature organism, supervise the maintenance of the organism, direct the external activity of the organism, but which also permeate the organism in such a way that it takes steps to maintain the continuity of the dynamic system beyond the confines of the individual life. This dynamic urge is one of the most fundamental qualities of the organism. Only at a certain stage of development is the organism able to carry out this function, seeking a mate in order with it to construct a new gametic system, a fertilized ovum which will repeat the cycle of individual life.

In our present culture the special medium of this biological cycle, the sexual life of the individual, has become associated with special values, which stir up emo-

tion, limit observation and disturb thought. The present cultural atmosphere tends to give to the term sexual a negative value, to associate it with what is tainted, inferior and unworthy rather than with the great forces of nature which govern human destiny. Many will reject the term sexual if it be applied to some activity which they cherish. The suggestion that a sexual factor plays a large rôle in art and religion is to them offensive, for it seems to reduce the value of these modes of human experience. Freud [21] caused much offense by qualifying as sexual the pleasure derived by infants and young children from certain activities; this seemed an outrage, for childhood is traditionally the age of innocence. As the adult indulgence in any of the above activities is usually referred to as a perversion, and as the infant and child tend to derive pleasure from a variety of such activities, Freud referred to the child as "polymorph perverse" to the great indignation of many people. Yet this formulation is simply the expression in regard to the sexual tendencies of the organism of a principle which the biologist has emphasized in regard to its growth-regulating tendencies: "Normal animals incline, in one direction or another, towards the marked reactions exhibited by the unusual types. From this point of view, all the modified conditions we have considered are really derivatives from the normal which have escaped the usually balanced or coordinated growth-regulating influences. It might be claimed that every normal individual is potentially a com-

[21] Freud, S.: *Drei Abhandlungen zur Sexualtheorie.* Wien, Franz Deuticke, 1905.

plex of possible distortions, this potentiality being either lightly or strongly expressed by different personalities." [22]

There may be a difference of opinion as to what pleasure-giving activities are entitled to be called sexual; many of them have obviously no essential relation to the function of reproduction. It may, however, for practical purposes be permissible to use the term sexual not only for factors directly associated with reproductive activity but for a variety of pleasure-giving activities which become intimately associated with some of the stages of reproductive activity, even although these activities may thwart rather than subserve reproduction itself. The introduction of the elusive term libido to embrace the sexual urge, its pleasure-yielding components and associated activities would probably add no precision to the discussion.

The infant derives pleasure from sucking, from rhythmic movements, from toilet activities, from physical manipulation and exploration of the body; the young child may indulge in manipulation of a distinctly sexual nature, he peeks, exposes himself, the sexual motif enters into his games, furnishes a stimulus to intellectual curiosity. Cultural repression is brought to bear from the very beginning on manifestations of sexual activity or interest; the child finds that many of its pleasure-giving activities are disapproved, lead to punishment or withdrawal of love, he begins to associate such tendencies with a feeling of inner discomfort or guilt or shame, and learns to repress them from his conscious experience. These tendencies may disappear from overt behavior and

[22] Stockard, Charles R.: *op. cit.*, p. 263.

from consciousness, and the adult seems to have outlived them. They are, however, not eliminated but merely repressed or held in check, and whenever the repressing forces are in abeyance, as in sleep, in intoxication, in delirium, in emotional turmoil, these crude and childish tendencies may again run riot. Even in the sober conduct of everyday life they may play an unsuspected part. The vice-crusader who has personally to make raids to make sure of the evidence of depravity, the self-appointed censor carefully studying pornographic works, the anti-vivisectionist dwelling with peculiar fascination on apparent instruments of torture, the dancer for whom art is everything and clothes are next to nothing, the scientific investigator whose chosen field is that of the recondite problems connected with the biology of sex may have as an important component in their professional interests persistent infantile and childish pleasure-seeking tendencies, long repressed from conscious thought or purpose.

The conventional view of childhood hardly does justice to the curiosity of the child in regard to sexual matters, in regard to the anatomy of sex and the problem of birth.

In the personality of the individual the attitude toward other persons and the rôle which they play are important elements. From birth onward the relation of the individual to persons is one of the most important factors in his experience. It influences the feeling-tone of inner experience, the conception of the universe and the code of values, the personal and social efficiency. The child's first social contact is with the persons of the family circle, its most intimate contact is with the mother. The child, at

first completely dependent on the mother, associates the latter with the satisfaction of its needs; at the same time is established the personal bond of affection with the mother, the first expression of the social response. The behavior and attitude of the child are conditioned by the reactions of the mother, by her likes and dislikes. It is largely through the mother as the representative of the mores of the group that the ordinary social values and cultural repressions are transmitted to the child. The mother does more than transmit the recognized social code of values, she gives to the child the imprint of her own personal code, which has been developed under the stress of her own personal needs and limitations and individual experiences, and the child looking at the world through the eyes of the mother may be looking through a distorting medium. The child may be unwittingly exploited by the mother to compensate for her own lost opportunities or to satisfy unrecognized needs of her own personality, and the personality of the mother subtly permeates the structure of the personality of the child.

With the development of a close bond of affection between child and mother, the former expresses its self-assertive tendency in demanding a monopoly of the mother's love and in resenting its being shared. Young Blaise Pascal[28] could not bear to see his mother and father near each other; he accepted their caresses individually, but as soon as they approached each other, he cried and had a violent tantrum. Incidentally, one may refer to the fact that Pascal tried to impose on others his

[28] Cabanès, Docteur: *Grands Névropathes*. Paris, Albin Michel, 1930.

own morbid sensitiveness in regard to sex. His sister writes:[24] "His purity was equal to his charity, and he had so great a regard for this virtue, that he was always upon his guard to prevent either himself or others from breaking in upon it. . . . If accidentally I said I had seen a handsome woman, it made him angry, and he would tell me that such sort of discourse should never be held before servants or young people, because I did not know what thoughts I might be the occasion of putting into their heads. Nor could he bear to see my children caress me, but told me I ought to disuse them to it, that it was a prejudice to them, and that one might give them tokens of tenderness a thousand other ways." Jung[25] quotes the case of an eight-year-old boy, extremely dependent upon a tender mother, extremely jealous of his father, unable to bear it when the father showed tenderness to the mother. The nervousness of this boy is attributed by Jung to the strong but conflicting attachments to the two parents.

The mother, the source of nutritive satisfaction and the first social contact of the child, may also be the first object of pleasure-seeking activities, ruminations and phantasies, connected with the sex life. In this way develop internal conflicts, the solution of which makes demands on the varied resources of the personality. The child, on the one hand, aims to assert itself, to exert power and to gratify its native tendencies; on the other

[24] Perier, Mme: *The Life of Pascal.* Translated by W. A. London, James Bettenham, 1744, p. 39.

[25] Jung, C. G.: *Collected Papers on Analytical Psychology.* London, Baillière, Tindall and Cox, 1920.

hand it tends to maintain its close attachment to the mother, and may resist both physical and psychical weaning. This resistance may be unconsciously very gratifying to the mother, and while she appears officially to encourage the independence of the child she may in a subtle way continue to cultivate the infantile dependence. The fascination of the early relation between infant and mother may continue to exert its influence on the later personality, and the individual in adult life may attempt to re-create analogous situations, and even in marriage may unwittingly reconstruct something of the old child-parent relation. The image of the mother may play a large rôle in determining the choice of a wife, and may interfere in a subtle way with a satisfactory marital relationship.

The father also plays a rôle in influencing the development of the personality of the child both in virtue of his special relation to the child and of the fact that he interferes with the monopoly of the mother by the child. As the mother both restricts and fosters the child, so with the father conflicting tendencies, hostile and friendly, come into play and help to determine the adult personality. Thus the behavior of a man of thirty-four, inefficient and docile, seemed to Jung to be explained by a personality which was essentially stamped by his earlier relations to his father. In the evolution of this patient's life "the relation to the father is the strongest and most momentous issue; . . . it would seem that the recollection of his youth is more precious to him than any present joys." [26]

[26] Jung, C. G.: *op. cit.*

In the family circle the child has the necessity of social adaptation thrust on it by the presence of brothers and sisters. The task is met by different children with varying success, depending upon the numerous variables involved in the constitution of the individual child, his place in the group, the nature of the siblings, and other factors in the total situation. The average child works out a tolerable compromise between his demand for personal satisfaction and power, and the conflicting demands of his siblings. The only child, unless given some other opportunity for social adaptation, may become accustomed to an undue degree of self-assertion. His later adaptation to the social group in school will be a more serious task than it is to the child with siblings. Failure to meet this task adequately may lead him to throw the blame on others; he may judge his schoolmates disagreeable and inferior and thus explain their unwillingness to accord him his familiar home status. The young Russian schoolboy,[27] separated in a boarding school from his doting mother finds his schoolmates disagreeable, the school abhorrent. On his return to school after a period of withdrawal he finds the same group of children quite agreeable, the same school quite tolerable.

In the personality of the adult the original emotional endowment has been conditioned by the various experiences of the individual life, and the crude and immediate emotional reaction tends to be superseded by a more purposeful and highly adaptive type of behavior. Even when the overt expression of an emotional response is

[27] Aksakoff, Serge: *A Russian Schoolboy.* London, Edward Arnold, 1917.

thus repressed or modified, the somatic components of the response may persist, and disturb various organic functions; beneath the threshold of consciousness the emotion may lead a subterranean existence, and subtly influence the conscious attitudes, thoughts and purposes of the individual. In infancy and early childhood the fundamental emotional reactions are expressed in an overt way. Fear and anger are patterns of reaction which can be elicited in earliest infancy. Charles Darwin [28] made careful observations on the appearance of various types of emotional reaction in his own children. He noticed the early appearance of rage and of aggressive behavior on the part of his sons, but observed no trace of such aggressiveness in his infant daughters. Already at the seventh month one child showed a sympathetic reaction to the nurse, the corner of the mouth going down when the nurse pretended to cry; in the tenth month the child showed evidence of jealousy when the father fondled a doll or weighed the infant sister. At thirteen months when the child was called naughty he offered a kiss of reconciliation, which Darwin accepts as evidence of the moral sense. In the third year the child showed personal sensitiveness, he thought that people laughing had reference to him. He also showed interesting reactions in relation to certain misdeeds. Thus after stealing sugar he had a rather affected manner. After stealing pickles he showed odd behavior, concealed a stain on his pinafore, denied it, said "go away." So even in early childhood an irritated and accusatory attitude toward others may be the expression of the discomfort of personal guilt.

[28] Darwin, Charles: *op. cit.*

The way in which an emotional response may become associated with a particular stimulus is illustrated by Miss Shinn's placid niece;[29] in her sixth month she cried because of the sudden appearance of someone who spoke in a gruff voice, and after this, for a month, she cried if a strange man took her.

The physiologists[30] have made an elaborate study of the way in which experiences modify the original pattern of reaction of the animal, and the psychologist[31] shows that fear and anger in the infant may be the result of laboratory experiences and not due to a constitutional sensitiveness to the special situation which elicits the emotion.

The child progresses in its individual development under the guidance of pleasure and pain and the pressure of the social environment, it learns to modify or repress some of its pleasure-seeking tendencies and the crudity of its emotional reactions, it develops or modifies its self-assertion, it weaves into its personality bonds of affection for or hostility toward other persons, it acquires various skills of personal and social value. During this development it builds up within itself a symbolic representation of the outside world and arranges in some sort of system the values with which that world seems permeated.

As the child through the ingestion of food grows in stature and strength, so by the mental pabulum available

[29] Shinn, Millicent Washburn: *The Biography of a Baby.* Boston and New York, Houghton Mifflin and Company, 1900.

[30] Pavlov, Ivan P.: *Conditioned Reflexes; An Investigation of the Physiological Activity of the Cerebral Cortex.* Translated and edited by G. V. Anrep. London, Oxford University Press, 1927.

[31] Watson, J. B.: *Psychology from the Standpoint of a Behaviorist.* Philadelphia and London, J. B. Lippincott Co., 1919.

it grows in mental stature, and with the help of the tools of thought placed at its disposal learns to deal with the environment in a more efficient and robust manner. The child is from the beginning exposed to cultural influences, so that the expression of its own native capacity and tendencies is somewhat submerged. Before the child is able to stand up he is already familiar with speech symbols, he is learning to identify and utilize them, and by the end of the third year he may already have a thousand speech symbols at his disposal. As he builds up within himself a symbolic representation of the outside world and arranges in some sort of system the values of that world, he is exposed to the mode of looking at things and of dealing with the external world, which is the common possession of all the members of the cultural group. Thus in the construction of his picture of the outside world the native tendencies of the individual are, from the very beginning, blended with the cultural beliefs and knowledge of the group. The spontaneous tendencies of the child's mind are, however, vital enough to assert themselves for a considerable period, until they seem to fade away with the increasingly mature acceptance of the prevailing cultural mode of thought. They fade away from consciousness but are not always obliterated, and in dream and delirium, in poetry, in art and in religion, we may still see the persistence of these early native modes of thought.

Into the observations and early experiences of the child are woven both individual and cultural factors. Among the cultural factors, that of language is of unique

importance, for words are symbols which not only represent logical concepts and are powerful tools of thought, they are also the condensation of a whole cultural outlook and carry with them traces of the early history of that culture. As tools of thought their value has been well expressed by a distinguished educator (Charles H. Judd):[32] "Language is so universal, so commonplace, so essential in all human life, that we forget its arbitrary and abstract character. . . . Language and numbers are the fundamentals on which man has built up his abstract civilization—a system far removed from the material objects on which it is based and which it symbolizes. . . . Through the centuries man has not only worked out these intellectual tools, but he has reduced knowledge to subject matter which it is possible skilfully and effectively to transmit to the child in a period of eight to twelve or fifteen years. Without this transmission of knowledge, the child would have to learn for himself all that the race has acquired in these many millenniums." As to the development of language in the infant, Taine[33] in 1876 published some careful observations, and Charles Darwin,[34] stimulated by this publication, produced in 1877 his own personal observations on this topic which had lain unpublished for thirty-seven years.

The child weaves into his personality a symbolic representation of that external system of forces of which he forms an infinitesimal constituent part, and the form of

[32] *Vid.* Embree, Edwin R.: *Prospecting for Heaven: Some Conversations about Science and the Good Life.* New York, The Viking Press, 1932.

[33] Taine, M.: *op. cit.* [34] Darwin, Charles: *op. cit.*

this representation is closely akin to that of primitive man. As Taine says, "the child presents in a passing state the mental characteristics that are found in a fixed state in primitive civilizations." Adults sometimes find it a pleasing relaxation to return to earlier animistic formulations and meet the child on his own ground. Taine's child at three years in answer to the statement "The moon has gone to bed," asked, "Where is its nurse?" Frequently the same child said, "What does the rabbit, bird, horse, big tree say?" The grandmother says that she will die; the child, accustomed to hear the word "dead" used for her dolls with broken heads, said, "Then shall you have your head broken?"

Young Arthur Schopenhauer was caught one day standing in front of a large vessel full of milk, making request to a shoe which he had tossed in to jump out. With this incident in mind he later writes, "The child believes that even inanimate things will give way to him a little; perhaps because he feels himself one with nature, perhaps because, unacquainted with the real essence of the world, he believes it his friend. . . ." [35]

Edmund Gosse, in his charming presentation of his own personal development [36] expresses the opinion "that certain leading features in each living soul are inherent to it and cannot be accounted for by suggestion or training." He had been made familiar with God, whom he looked upon with absolute confidence. At the same time, his

[35] Wallace, W.: *Life of Arthur Schopenhauer.* London, Walter Scott, 1890.

[36] Gosse, Edmund: *Father and Son; A Study of Two Temperaments,* New York, Charles Scribner's Sons, 1919.

mother always deferred to his father, and spoke of him as if he were all-wise: "I confused him in some sense with God; at all events I believed that my Father knew everything and saw everything." One day Edmund heard his father make a statement that was not true: "The shock to me was as that of a thunderbolt . . . there was the appalling discovery that my Father was not as God, and did not know everything." This dethronement of the father from his place as a deity was accompanied by a curious feeling in the child's mind that he had found a companion in himself, with whom he shared this secret. Young Gosse, thrown back on his own resources owing to the preoccupation of his parents, took refuge in what he calls a species of natural magic: "I formed strange superstitions. . . . I persuaded myself that, if I could only discover the proper words to say or the proper passes to make, I could induce the gorgeous birds and butterflies in my Father's illustrated manuals to come to life." During morning prayers he fancied that if he could only find the formula, one of his two selves could flit up, cling to the cornice, and look down on the company. He thought that he might find this formula if he could only count consecutive numbers long enough without losing one.

Piaget [87] of Geneva, using the spontaneous questions and remarks of a group of children, has investigated in a systematic way the various stages through which the child's conception of the world passes. Even the young child is not satisfied with simply registering impressions,

[87] Piaget, Jean: *The Child's Conception of the World.* New York, Harcourt, Brace and Company, 1929.

with its natural curiosity it reaches out in an endeavor to see some sort of order in the universe. He assumes that the objects which he sees around him are specially made for him and his like, that is, for man; the sun is made for warmth, the lake for boating, the mountain for climbing. At the same time as he sees a purpose in all things, and looks on them as made for man, he may also adopt an animistic viewpoint; the stars may be thought of as living and glowing, but also as made for man. The child does not naturally develop the conception of God with his conventional attributes; his natural tendency is to attribute spontaneously to his parents perfections and attributes which he will later transfer to God, when the latter is introduced to him.

The interest in his own origin is one of the roots of the child's curiosity about the origin of all things, and precedes its interest in the origin of other things. The view which the child has of birth tends to be extended to other objects. The young child may take it for granted that the baby existed before birth and asks where it was before that. A girl of three and a half asks her mother, "Mama, where did you find me?"; a girl of five says to her mother, "Where was I when you were a little girl?" A child of four years, ten months has asked where is the baby *now*, that a lady is going to have next summer, and has been answered "It is inside her"; to this he replies, "Has she hidden it then?" Sully quotes a child who asked, "Do people turn back into babies when they get quite old?" A child of five, when he heard that his father was dead, said, "Will he grow up again?"

The childish modes of thought, illustrated by Piaget, which to a certain extent reproduce the animistic and magical beliefs of primitive man, are soon superseded by more mature concepts and a more efficient logical process. A mental disorder frequently reveals the underlying residuals from earlier phases of development.

Thought offers a useful symbolic representation of the outside world with which the organism can operate, but this realistic function of thought is supplemented by its pleasure-giving or wish-fulfilling function. In the child this pleasure-giving activity of thought plays an important rôle; the child supplies the gaps of a somewhat drab world with the products of its phantasy and may make little distinction between these subjective products and the products of objective observation. The child may even seduce its seniors into the playful acceptance of its phantasies, and the child may be allowed the luxury of dream companions and phantasied dependents. The control of an exuberant phantasy should be rather by stimulating interest in the actual world than by condemning or repressing unduly the gift of phantasy. The mother of Edmund Gosse [88] as a child had a fertile imagination and delighted to tell stories to amuse herself and her brothers. A Calvinist governess impressed on her at the age of nine that to invent a story of any kind was a sin; from now on the child struggled to repress the use of this natural gift. "The longing to invent stories grew with violence. . . . The simplicity of truth was not sufficient for me; I must needs embroider imagination upon it, and the folly,

[88] Gosse, Edmund: *op. cit.*

vanity and wickedness which disgraced my heart are more than I am able to express." So in her adult life she stuck to the conviction that "to tell a story," to compose fictitious narrative of any kind was a sin; "Nor would she read the chivalrous tales in verse of Sir Walter Scott, obstinately alleging that they were not true." She would read none but lyrical and subjective poetry. So her son Edmund Gosse was brought up as a child in a house "into which no fiction of any kind, religious or secular, was admitted." The boy heard about missionaries but not about pirates, was familiar with humming-birds but had never heard of fairies: "They desired to make me truthful; the tendency was to make me positive and sceptical. Had they wrapped me in the soft folds of supernatural fancy, my mind might have been longer content to follow their traditions in an unquestioning spirit."

The presence of a vivid phantasy in childhood is no indication of a latent defect. Charles Darwin as an adult was a most scrupulous investigator, but his conscience was sorely troubled by certain boyish misdemeanors: "I told another little boy that I could produce variously coloured polyanthuses and primroses by watering them with certain coloured fluids, which was of course a monstrous fable, and had never been tried by me. I may here also confess that as a little boy I was much given to inventing deliberate falsehoods, and this was always done for the sake of causing excitement." [39]

[39] *The Life and Letters of Charles Darwin;* including an autobiographical chapter. Edited by his son, Francis Darwin. London, John Murray, 1887.

In the system of forces of the adult personality we must recognize not only rational processes, supported by systematized instruction and utilizing the cultural store of general information, and the conscious play of adult phantasy, but also residuals from childhood thought and phantasy, and traces of special family beliefs, superstitions and attitudes, unconsciously assimilated by the child.

In dealing with the special skills of the child, as with the formation of its general code, the parent may impress on the child a scale of values, the origin of which in his own case he or she has not scrutinized. The success or failure of the child in manual skill, in athletic skill, in verbal and scholastic skill, in the skill of social adaptation, may be a matter of indifference or of great concern to the parent, depending not on the intrinsic or social values of these skills, but on what these factors represent to the parent himself with his own special endowment and his own individual experience. Thus the parent may force a classical education on a child with a born aptitude for mechanical pursuits, or give a musical training to a child who lacks both interest and capacity for it. The training may so emphasize the egoistic trends of the individual as to make his social adaptation difficult, or it may so over-emphasize the social factor that the native trends find little expression or give rise to disturbing and explosive reactions. In the parental emphasis on social values there may be little differentiation between those of wider and those of narrower application; broad social values, caste conventions and individual prejudices may be placed on the same footing, and little difference in value

may be made between personal integrity, club membership and stiff collars. Thus the personality of the adult is not the mere result of the spontaneous evolution of the original endowment represented by the gametic material, it has been molded by the social environment with its special cultural features, and it bears the imprint of the personal influence of those persons in the family circle with whom it has been intimately associated in the most plastic period of its development.

As the study of the mind of the child contributes much to our knowledge of the adult personality, so many of the customs and beliefs of civilized man become more intelligible when we study the mind of primitive man. To primitive man this world is not a physico-chemical system, whose phenomena follow certain rigid impersonal laws; it is an arena for the display of personal forces which have the same arbitrary and incalculable quality as the human will. Primitive man does not perceive objects in the same way as civilized man, but he sees them entangled in a complicated network of mystical forces, favorable and hostile. Force or *mana* lodges everywhere, and to avoid the dangers of the unknown it is always well to follow the beaten track. The beliefs of modern spiritualists find their prototypes in those of primitive man, who believes in visits and communications from the spirits of the dead, and who follows a great variety of customs in dealing fittingly with these spirits, who are liable to be vindictive and to require propitiation. Witchcraft, sorcery and magic are objective procedures of great importance. Death and disease are due to occult forces, and not

to such obvious facts as exposure to cold, a falling tree, a crocodile, the spear of an enemy. Evil spirits may enter into animals or inanimate objects. The sorcerer may injure a man at a distance by exercising his magic art upon the victim's nail-parings, his footprints, his waxen image, his name. Anything that is unusual is dubious, likely to be dangerous; therefore it is as well to kill twins, or infants who cut their upper teeth before the lower. There is a certain mystical union between members of the same tribal group, a mystical union between the individual or group and some animal, region, plant or natural force. The anthropologist has traced the beliefs and customs of primitive man into the folk-lore of the modern peasant, he has shown how our language is permeated with primitive beliefs, he has demonstrated the fact that our modern religious festivals are merely new editions of ancient pagan festivals.

In many individuals, and not always in those of low intelligence or poor education, primitive beliefs and superstitions exist side by side with all the apparatus of modern culture. Bismarck writes to his friend, "You will hardly believe how superstitious I am." Byron was the slave of superstition; to him every coincidence was a miracle; he believed in omens, to wear a black gown was dangerous, a bat flying into the room brought ill luck. It is not only the unintelligent who hesitate to sit down to a table of thirteen persons, or to begin an undertaking on a Friday, or who feel that success in an undertaking depends partly on the possession of a lucky amulet or charm. Even the modern undergraduate is not exempt

from the domination of belief in magic.[40] In a twentieth-century environment, with its rational thought and efficiency engineering, its philosophic doubt and emancipation from outworn creeds, the yachtsman still whistles for the breeze, we still say "God bless you" when the fairies elicit a sneeze. At birth, at marriage, at death we carry out procedures which have their roots in the prehistoric past, although they may have been somewhat remodeled to bring them into apparent harmony with the tenor of our official beliefs and conduct. The newly born child has to be purified by the rite of baptism, and "the churching" of a woman after childbirth makes her fit to resume her place in the community. We are reluctant to celebrate weddings in May, the month of the Roman Lemuralia, when expiatory rites were carried out to expel maleficent spirits, during which rites the temples were closed and marriages avoided. We throw rice or its modern substitute, confetti, over the newly married couple to promote fertility, while the emancipated couple may have already decided that their fertility shall be determined strictly by social and economic considerations. Few of us care to walk through a graveyard at night; our reason admits no adequate basis for the hesitation, but the primitive within us is uneasy in the presence of such a throng of spirits. Only recently, to make sure that the hostile spirit of the suicide would not molest us, we buried him at a cross-roads with a stake through his inside. We bring the bodies of the dead from enormous distances so that the spirits

[40] Tozzer, Alfred Marston: *Social Origins and Social Continuities.* New York, The Macmillan Company, 1925.

of those who lived together in this mundane life may not be divided in death. Cecil Rhodes lies where his spirit can gaze out over the hills of Rhodesia. Theodore Roosevelt reposes in a spot which he himself had selected overlooking the waters of Long Island Sound. In Egyptian tombs we find evidence that suitable sustenance and material conveniences were made available to the spirit of the departed who had changed the sphere of his activities. Queen Victoria for nearly forty years after the death of the Prince Consort saw that the spirit of the departed had each evening the proper clothing laid out for dinner and water set ready. The sacred rites of the church embody elements of totemistic and animistic origin, and the animal symbols of Christian belief are closely related to the favorite animals of the gods of Greece. The medical profession has for its symbol the caduceus of Mercury with the serpent, the wise companion of the god Æsculapius.

Quite apart from special rites and symbols, the words or verbal symbols in daily use tend frequently to preserve a more primitive mode of thought. While we think that we are dealing with quite modern and up-to-date symbols, completely sterilized and deprived of all their primitive associations, the magical significance of the word may have a potent influence.

As the personality of the individual adult contains factors of primitive and childhood origin, so the cultural environment in which he is enmeshed bears similar traces of the infancy of mankind. At the side of the modern planetarium the astrologer hires his booth and plies a thriving

trade. While Lowell lectures are being delivered, within a very short radius horoscopes are being cast, people are holding out their trembling hands to fortune-tellers, healing cults of primitive stamp are in full blast. We are apt to look upon modern culture as one of reason and enlightenment, dominated by scientific knowledge and valid codes, just as we tend to see our own behavior and beliefs as part of a moral order and a rational system. As a matter of fact our cultural environment is a curious mixture of modern efficiency and archaic tradition. Just as in the clothes we wear there are residual buttons for flaps which are never on horseback, and for sleeves which are never rolled back for professional purposes, so in social organization, in the administration of law, in the services of religion, in our ethical code there are archaic elements which have no rational basis nor present adaptive value.

CHAPTER IV

THE PERSONALITY, ITS DYNAMIC SYSTEMS AND THEIR INTEGRATION

In the preceding chapters we have been occupied with the general factors involved in the complex system of forces called the human personality, with its relations to the environment, its component mechanisms, the stages of its development. With this general background one may proceed to a summary review of some particular qualities and scrutinize the divergences in human personality, which make each individual unique and give to social intercourse much of its color and its charm.

The most familiar attempt to deal with the diversity of human nature is the ancient classification of the various temperaments, the sanguine, the choleric, the melancholic, the phlegmatic. The underlying basis of these temperaments was formulated in accord with the prevailing natural philosophy of the period.

A more detailed attempt to give some precision to special traits of character is that of Theophrastus [1] (born about 370 B.C.). In the various types of personality, or

[1] *The Characters of Theophrastus.* Newly edited and translated by J. M. Edmonds. London, William Heineman, Ltd.; New York, G. P. Putnam's Sons, 1929.

characters, which he describes, there is no systematic basis of classification, but typical individuals are described according to some predominant trait round which other traits are grouped. Thus he describes the flatterer, the boor, the loquacious man, the news-maker, the penurious man. The description of these typical individuals is characterized by shrewd observation and by skill of literary expression; there is no attempt to penetrate to the underlying forces.

Theophrastus has found many later imitators, of whom Earle [2] is the most attractive English representative, while the French work of La Bruyère [3] along similar lines is a familiar classic. Earle takes up more highly specialized types, such as an antiquary, a sceptic in religion, a drunkard, a meddling man, a rash man. Here, too, as in Theophrastus, we have the skillful portrayal of types, whose traits have interested the author, but with no attempt at an analysis of these traits. The work of La Bruyère, first published in 1688, contained in addition to a translation of the *Characters of Theophrastus* the portrayal of typical characters and of the manners of his own time, and the vivid sketches of certain contemporary types were sufficiently life-like to cause great discomfort to the supposed originals.

In much more modern dress and with a systematic effort to analyze the character of certain familiar types

[2] Earle, John: *Microcosmographie or A Piece of the World Discovered in Essays and Characters.* London, J. M. Dent and Co., 1909. (Originally published anonymously by Edward Blount in 1628.)

[3] *Les Caractères de La Bruyère.* Published by D. Jouaust, Paris, Librairie des Bibliophiles.

into simpler psychological components, Paulhan [4] presents the same topic of human types. Basing his presentation on an earlier work,[5] in which he had outlined a series of abstract psychological laws, he attempts to show how different categories of personality may be formulated in the light of these laws. Paulhan's work just precedes the present period in which biology, physiology and psychopathology have led to the formulation of human behavior in terms of fundamental drives and tendencies, which have to be studied biologically and genetically. The result is that his characters are presented in terms of an analytic psychology, which uses a somewhat old-fashioned idiom. His analysis of the character of Flaubert, the author of *Madame Bovary,* gives a concrete example of the general principles of his work, and of the underlying concepts. He sums up Flaubert as "a unified personality and an artist with a temperament inclined to contrast and to conflict, with a nature rather crude but very sensitive, sufficiently complex, very vigorous, very vital, a man in whom the diverse elements, too vivacious and somewhat relaxed by illness, could not be completely harmonized, notwithstanding the dominant rôle of one element which was able to exploit even the revolt of the others." In such an analysis of the personality of Flaubert we have no reference to internal secretions, the infantile pleasure-seeking tendencies, the bond between him and his parents, the early experiences of success and failure, the con-

[4] Paulhan, Frédéric: *Les Caractères.* Paris, Félix Alcan, 1909. Third Edition.

[5] Paulhan, Fr.: *L'Activité Mentale et Les Éléments de l'Esprit.* Paris, Félix Alcan, 1889.

flict between the appetites and cultural restrictions, the influence of repressed factors on behavior and mental attitude.

One of the most serious attempts to deal with the various types of personality is that of Jung[6] of Zürich. He lays stress on two opposite tendencies in human nature, the tendency to devote one's interest to the values of the external world and, on the other hand, the tendency to concentrate one's interest on the inner life and spiritual things. Other writers dealing with man and his destiny have emphasized the same contrast, and Jung in this connection refers to the characteristics of the "tough-minded" and the "tender-minded" as outlined by William James. The experience of twenty years in dealing with nervous and mental patients led Jung to consider that one could to a certain extent separate people into those in whom the extraverted and those in whom the introverted tendency is dominant. He describes the extraverted individual with his attention directed to the outside world, his behavior oriented toward the real, the actual, the objective, his ethical code essentially determined by the moral influences of the environment. The introverted individual is not to the same extent a reactive mechanism, his thought and activity are more dependent upon the nature of his own inner constitution; the introvert lays less stress upon what is objectively given than upon its subjective significance for the individual. The introvert is less under the immediate influence of the environment, which he tends

[6] Jung, C. G.: *Psychological Types or The Psychology of Individuation.* Translated by H. Godwin Baynes. London, Kegan Paul, Trench, Trubner and Co., Ltd., 1923.

to use as the medium of self-expression. In the human mind, whether extravert or introvert, there are, according to Jung, four main psychic functions, sensation, thought, feeling, intuition, and the relative dominance of these functions varies from individual to individual. Below the level of conscious thought other mental processes are carried on which contribute their quota to the total system of forces. The analysis of any individual along these lines would give as a framework his fundamental type, extravert or introvert, the relative importance of the four main psychic functions, the rôle played by the subconscious factors.)

Popular psychology has always tended to correlate traits of personality with physical characteristics; a jovial Falstaff is a burly fellow, the mean and scheming Cassius has a lean and hungry look, the man of determination has a massive lower jaw. (The psychiatrist Kretschmer,[7] on the basis of a painstaking investigation, came to the conclusion that the popular view expresses a scientific truth. He called attention to the existence of two special types of personality, the cycloid and the schizoid, which to a certain extent represent Jung's extraverted and introverted types, and by exact measurements showed the correlation of their mental traits with certain physical characteristics, which he grouped together as the pyknic and the asthenic types of physique.)

Leaving to others the study of human types from the

[7] Kretschmer, E.: *Physique and Character.* An Investigation of the Nature of Constitution and of the Theory of Temperament. Translated from the second edition by W. J. H. Sprott. New York, Harcourt, Brace and Company, Inc., 1925.

biological and naturalistic standpoint, and emphasizing the intimate bonds between the individual and the cultural environment, Spranger [8] presents a very different classification of human types, based on the special values which dominate the lives of men. He gives a general and abstract outline of each type, explicitly disclaims the attempt to present concrete pictures of representative individuals. The first type is the theorist or intellectualist, with a passion for objective knowledge, rejoicing over a purely theoretic discovery, not interested in specific practical situations, but like Kant often nonplussed by insignificant things. He ignores the æsthetic imagination, asks what does a symphony prove? He is a complete individualist, is detached from personal ties, lives in the eternal and the general. He is radical, cosmopolitan, aristocratic. The second type is the "economic" man, "who in all relations of life prefers utility to all other values. He sees everything as a means for self-preservation, an aid in the natural struggle for existence and a possibility to render life pleasant." Thus he thinks of knowledge only in utilitarian terms, is egotistical, possessive. The "æsthetic type" strives for abundant and many-sided experience; he does not intellectualize about objects, he lives in the æsthetic objects of his contemplation. He cherishes his feelings, lives in their concreteness and abundance with a minimum of logical reflection. His attitude is a state of pure contemplation, devoid of passion and aggression. Although not unsocial, he is not ruled by a desire to help

[8] Spranger, Edward: *Types of Men; the Psychology and Ethics of Personality.* Translated from the fifth German edition by Paul J. W. Pigors, Ph.D. Halle (Saale), M. Niemeyer, 1928.

others; their needs become objects of æsthetic enjoyment. The "social type" has interest in others as the organizing principle of his mental life; he sees value in others and lives in them. This "attitude which honors another life as a possible carrier of value contains a religious factor." To the social type knowledge is not of primary importance, science contains too much of the object, too little of the soul. The social quality in its highest development is love; love is directed not to the charm and beauty of the other but to the wholly unformed soul because of its possibilities of value. The power-seeking type is called the "political type" on account of the relation of the individual to the collective power of the state. This type of individual wishes to feel himself as a power, to affirm his own being; he makes knowledge, economic motives, æsthetic values, social bonds, religious beliefs serve as his tools, he does not see them as ends in themselves.

The essence of religious experience is seen in the search for the highest value of mental life; the personality of the "religious type" is permanently directed to the creation of the highest and absolutely satisfying life experience. The other types become religious whenever they seek to grasp the entire meaning of life through their own special medium; thus the theorist is religious when he seeks through knowedge to fathom the ultimate, the utilitarian when he finds the final satisfaction and the service of God in the performance of economically useful work, the artist seeking the highest revelation in the beauty of this world, the social type finding God in infinite love, the

political type seeing God in large-scale demonstrations of power.

These studies of psychological types or types of personality, which we have briefly reviewed, emphasize the variety of ways in which the human personality may deal with experience; the diversity of the formulations indicates the complexity of the topic of investigation, and the need of further research in this field of human biology. While one has in studying human personality to take stock of these general types of reaction, in dealing with the concrete human personality, other qualities are of more immediate interest to us. Within the general framework of extraversion or introversion, of a theoretical or an æsthetic attitude, a great variety of personal traits assert themselves and give to the individual his unique quality and value.

We may now proceed to a discussion of some of these particular traits within the setting of the general pattern or type. There are so many variables entering into the human personality that only a few can be selected for discussion. Another difficulty at once confronts us in the great variety of life situations. In the same individual the personal reaction may vary from situation to situation. Each creature

> *Boasts two soul-sides, one to face the world with,*
> *One to show a woman when he loves her.*

but even the soul-side with which he faces the world has many facets, which are revealed by different situations.

A man may be "an angel abroad, a devil at home"; or he may be kindly and generous within the family circle but ruthless in business. An individual may be honest and trustworthy in business and professional matters but untrustworthy in regard to stories of his personal prowess in fishing, golf or love. A person, usually accounted lazy, may under favorable circumstances show a capacity for continuous and strenuous activity; a scientific physicist, critical in his own field of work, may be credulous and gullible in another field; a person, liberal in general, may be rigidly conservative in regard to a special interest.

In our ordinary social estimate of the personality of another we are not primarily concerned with the degree of his technical efficiency, the breadth of his outlook, the penetrating quality of his thought; we pay more attention to the evidence of energy or power, to the emotional reactions, to the feeling-tone which colors his inner experience, to the affection, antagonism, or indifference which he elicits in even a brief interview, to the influence which radiates from him and his response to the influence of others, to the code of values, which determines his outlook and his behavior. Thus the personality of a man makes an impression on us especially through its dynamic quality, through its emotions and its feelings, through its relation to the values of life. We may review briefly these factors and refer to some persons by way of illustration, not in a gossipy or anecdotal manner.

Individuals vary greatly in regard to their dynamic

lean to our own understandings) with the writings of the earliest ages. At seven we breakfasted. At eight were the public prayers. From nine to twelve I usually learned *German,* and Mr. Delamotte, *Greek.* My brother writ sermons, and Mr. Ingham instructed the children. At twelve we met, to give an account to one another of what we had done since our last meeting, and what we designed to do before our next. About one we dined. The time from dinner to four, we spent in reading to those of whom each of us had taken charge, or in speaking to them severally, as need required. At four were the evening prayers; when either the second lesson was explained (as it always was in the morning) or the children catechised, and instructed before the congregation. From five to six we again used private prayer. From six to seven I read in our cabin to two or three of the passengers (of whom there were about eighty English on board) and each of my brethren to a few more in theirs. At seven I joined with the *Germans* in their public service; while Mr. Ingham was reading between the decks, to as many as desired to hear. At eight we met again, to exhort and instruct one another," and so to bed between nine and ten to sleep soundly the night through.

His biographer refers to this program as "prodigious labor," but assures us that during the following fifty-five years and more, few days passed which were not employed with the like industry: "The travels of Mr. Wesley in the work of the ministry, for fifty years together, are, I apprehend, without precedent. During this period, he travelled about four thousand five hundred miles every

year, one year with another; which gives two hundred and twenty-five thousand miles that he travelled after he became an itinerant preacher. . . . For fifty-two years, or upwards, he generally delivered two, frequently three or four sermons in a day. But calculating at two sermons a day, and allowing, as a writer of his life has done, fifty annually for extraordinary occasions, the whole number during this period will be forty thousand five hundred and sixty. To these may be added, as the same writer justly observes, an infinite number of exhortations to the societies after preaching, and in other occasional meetings at which he assisted."

It is not only religious fervor which spurs a man to such continuous industry; Karl Marx is presented to us by his biographers as a man of colossal industry, making entries in his notebooks even on his walks, neglecting social intercourse for the sake of his studies which he pursued day and night, abstracting, translating, composing, "his urge for truth was that of Faust, his thirst for work was unquenchable." [11]

Individuals vary not only in the amount of energy expended, but still more in the channels through which that output is directed. The channels of activity, the occupation, the hobbies, the recreations may be in part determined by external circumstances, by cultural traditions and local opportunities, but they are also in part the expression of the personal tastes and skills of the individual.

Besides the difference in the amount and direction of

[11] Beer, M.: *Karl Marx, Sein Leben und Seine Lehre.* Berlin, Verlag für Sozialwissenschaft, 1919.

the individual expenditure of energy, there is also a difference in the personal return from that expenditure, in the way of pleasure, satisfaction or joy. In some the pleasure or displeasure from the adequate or inadequate response to needs, from activity, from sensory stimuli, may never reach more than a placid level, while in others experience is accompanied by thrills of pleasure, profound satisfactions, vivid enthusiasms, if also by poignant pain, and keen dissatisfaction. In human conduct the guiding influence of pleasure and pain is ever present, but the degree to which the bonus of pleasure, which nature has awarded to certain modes and degrees of functioning, dominates motivation varies from individual to individual. The needs and tendencies of human nature are manifold and of different levels, and the actual behavior of the individual is hardly to be understood as the result of simple bookkeeping in terms of pleasure and pain. Food and drink may bring pleasure to the man in want, but a still more profound satisfaction may be brought by other means to the man who hungers and thirsts after righteousness. The sybarite and the ascetic may obtain satisfaction by diametrically opposite routes.

The individual personality receives part of its characteristic quality from its sensitiveness to pleasure and pain, to joy and grief, from its greater or less subjection to or emancipation from these influences, from the special avenues of activity and receptivity through which these responses are most easily elicited.

In our modern culture the pleasure associated with the satisfaction of the appetites is somewhat tabooed, while

that associated with man's æsthetic and ethical needs is at a premium; enthusiasm over a beefsteak cannot be openly shown in a circle where the satisfaction derived from a symphony is safely expressed in superlatives. Yet intense gratification over the satisfaction of the cruder appetites may be present in natures of great complexity, responsive to broad human issues and to æsthetic values. Bismarck saw no reason to conceal the pleasure he derived from eating and drinking. In one letter he asserts, "I must stop, for I have just eaten so gigantic a supper . . . that I can no longer sit still." In one note he says, "Today I have eaten such a lot of figs that I must have some rum to drink." Again we find an entry: "Then I ate my supper walking up and down the room, devouring almost all of the thick Wurst, which tasted delicious; I drank a whole stone pitcher full of Erfurt beer; and now as I write to you, I am putting away a second boxful of marzipan. . . . I am really very well, only at the moment my stomach is rather too full of Wurst." [12]

In many a cultural environment the individual with the same ability to enjoy the pleasures of the table as Bismarck would hesitate to disclose the fact in such a frank manner, might even repress the fact from his own consciousness like Samuel Butler's headmaster, who at supper explicitly rejects the suggestion of more than "a glass of cold water—and a small piece of bread and butter," but notwithstanding his official abstemiousness consumes a good plate of oysters, a scallop shell of minced veal, nicely

[12] Ludwig, Emil: *Bismarck.* The Story of a Fighter. New York, Little, Brown and Company, 1927.

browned, some apple tart, and a hunk of bread and cheese, followed by gin, "hot and stiff."

The indulgence of the crude appetites, which may not seem out of place in the vigorous man of practical affairs, apparently need not conflict with the life of the creative artist. The biographers of George Frederick Handel are apologetic over the enormous appetite of their subject. One [13] reports the anecdote that the musician on one occasion ordered dinner for three at a tavern and had to explain to the host that he himself was the whole company; the biographer looks upon such indulgence as unworthy, "it appears certain that he deserves the reproach of having been a *gourmand,* and too fond of good cheer." Another biographer [14] pleads Handel's special constitution in mitigation of his hearty enjoyment of food: "Those who have blamed him for an excessive indulgence in the lowest of gratifications ought to have considered that the peculiarities of his constitution were as great as those of his character. . . . He certainly paid more attention to it, than is becoming in any man: but it is some excuse that Nature had given him so vigorous a constitution, so exquisite a palate, and so craving an appetite; and that fortune enabled him to obey these calls, to satisfy these demands of Nature."

As the simpler needs of human nature yield pleasure of greater or less intensity to different individuals, so there is great variability in the pleasure derived by dif-

[13] Schoelcher, Victor: *Life of Handel.* New York, Mason Brothers, 1857.

[14] Mainwaring, John: *Memoirs of the Life of George Frederick Handel.* London, R. and J. Dodsley, 1760.

ferent individuals from the response to the higher needs, from the accomplishment or contemplation of altruistic endeavor, of artistic creation, of intellectual attainment.

Quite apart from the intensity of satisfaction or dissatisfaction associated with specific needs and stimuli, the general level of the feeling-tone gives to the personality a special quality. Some have a placid, easy-going nature, they neither rise to great heights nor sink to great depths of feeling, they look at life through a neutral medium which gives to experience neither an unduly roseate nor unusually sombre color. Others seem to be constitutionally predisposed to lowness of spirits, they never seem to have the normal joy of life, with which the average individual is familiar and which the chosen few have in abundant measure. In contrast with this rather gloomy type is the personality of high spirits, in whom the balance of satisfaction with life seems to be continually on the right side of the ledger. Such an individual finds life worth living, sees the world as a very satisfactory environment, looks upon changes as indicating progress, and progress as somehow or other a good thing, feels optimistic as to the actual situation and has a feeling of security with regard to the structure of the universe and its values. The personality of some is colored by a habitual uneasiness and apprehension with regard to the future, that of others by worry and regrets over past decisions. In the personality of some a feeling of self-confidence and of personal value is an outstanding factor, while in others a feeling of inferiority colors the whole experience of the individual and furnishes the key to many personal traits.

The influence of pleasure and pain in the dynamics of the personality, and the feeling-tone which accompanies the experience of the individual, do not exhaust the rôle of feeling in the personality. The feeling-life of the individual also includes those episodic or protracted reactions, to which the term emotion is attached, among which the more familiar are anger, fear, love and hate. Particular susceptibility to any of these emotions, unusual vividness or duration of the emotions, may be one of the outstanding characteristics of a personality and give to it a special stamp.

Bismarck was as frank about his vivid emotional reactions as about his indulgence in food and drink, he looked on both as components of a vigorous personality: "Hate as a spur in life is no less important than love." [15] Even the memory of old grievances was sufficient to stir him deeply: "When I lie awake in bed I often become quite mad with anger at the thought of unexpiated wrongs done me thirty years ago, and if waking, leap to defend myself." [16]

That doughty trencherman Handel [17] "was of an excessively violent character; for the slightest reasons he became fearfully enraged." On one occasion, irritated by the ill-judged prank of a musical wag at a concert before the Prince of Wales, "he seized a kettledrum, which he threw with such violence at the leader of the band, that he lost his full-bottomed wig in the effort. Without wait-

[15] Ludwig, Emil: *op. cit.*

[16] Morrow, Ian F. D.: "Bismarck and William II." *Edinburgh Review*, July, 1927.

[17] Schoelcher, Victor: *op. cit.*

ing to replace it, he advanced, bare-headed, to the front of the orchestra, breathing vengeance, but so choked with passion that utterance was denied him." When a prima donna at rehearsal refused to sing an air, he dragged her to the window, and threatened to throw her into the street, saying "I always knew you were a very devil, but I shall now let you know that I am Beelzebub, the prince of the devils." His emotional sensitivity showed itself in other forms than irascibility. When he was composing, his excitement would rise to such a pitch that he would burst into tears; his servant bringing him his chocolate in the morning "often stood with silent astonishment to see his master's tears mixing with the ink, as he penned his divine notes." A friend calling on him when in the act of setting to music the pathetic words, "He was despised and rejected of men," found him absolutely sobbing.

Another familiar example of impetuous anger is afforded by Lord Byron:[18] "The violence he could display over trifles was terrifying." He said himself, "You do not know what a devil any bad passion makes me." The vividness of emotional reactions in youth and the persistence into adult life of the emotional value of early experiences, already illustrated by Bismarck, are emphasized by Byron in discussing his reaction to the early comments on his lameness: "I often look back on the days of my childhood and am astonished at the recollection of the intensity of my feelings at that period; first impressions are indelible. My poor Mother, and after her my

[18] Maurois, André: *Byron.* Translated by Hamish Miles. New York, Appleton and Co., 1930.

schoolfellows, by their taunts, led me to consider my lameness as the greatest misfortune, and I have never been able to conquer this feeling. It requires great natural goodness of disposition to conquer the corroding bitterness that deformity engenders in the mind, and which sours one towards all the world."

Alfred de Musset,[10] an extremely sensitive child, was brought up without any training in self-control; his undisciplined character in boyhood showed itself in outbursts of rage. At times, as often happened in later life, he seemed to be beside himself: "One day he broke the mirror in the drawing room with a billiard ball, cut the new curtains with scissors, and devastated a great map of Europe." De Musset had a somewhat morbid sentimentality; looking out from the house of his host on a magnificent view of wood and river, his exclamation was, "Oh, what a beautiful spot to kill oneself!" His indulgence in sentiment was remarkably egoistic if one may judge from his comment on the sickness of George Sand in Venice during their sentimental journey, "It's very disagreeable to have a sick woman for one's companion."

In contrast with these persons, subject to violent outbursts of anger, stands John Stuart Mill, a man of distinguished intellect but of pallid emotion, who admits that until his first attack of depression at the age of twenty he hardly recognized that sentiment and feeling had any importance in human life; his biographer informs us that "in Mill all the coarse, crude forms of angry passion

[10] From *Alfred de Musset,* by Henry Dwight Sedgwick. Copyright, 1931. Used by special permission of the publishers, The Bobbs-Merrill Company

were entirely wanting. He never got into a rage." [20] One almost wishes that Bismarck could have bitten him.

Among the emotions none is more important than love, affection or a tender feeling for one's fellows, and here, too, we meet with great individual variability. Mozart was a boy of great sensibility; "he would ask those about him ten times a day whether they loved him, and if they jestingly answered in the negative, his eyes would fill with tears." [21] One may incidentally mention here, in illustration of the workings of a child's mind, how Mozart's veneration for his father expressed itself. He placed his father on a very special elevation, one of his familiar phrases being "God first, and then papa"; he had the fancy that when his father became old he would have him preserved in a glass case, the better to contemplate and admire him.

The father of Edmund Gosse had little gift for friendship; his son writes of him, "Of friendship as a cardinal virtue, as one of the great elements in a happy life, he had no conception." Of Edmund Gosse himself his biographer, Charteris,[22] writes, "If ever there was a specialist in friendship it was Gosse."

While the emotional life of Mill seems to the reader of his *Autobiography* somewhat anæmic, his psychologist biographer credits him with a considerable endowment of

[20] Bain, L.L.D., Alexander: *John Stuart Mill.* London, Longmans, Green and Co., 1882.

[21] Holmes, Edward: *The Life of Mozart.* New York, Harper and Brothers, 1854.

[22] Charteris, Evan: *The Life and Letters of Sir Edmund Gosse.* London, Wm. Heinemann, Ltd., 1931.

the tender feeling, but admits that "He had not the sociable feeling in the form of large indiscriminate outpourings, and boundless capability of fellowship. A certain kindliness towards people in general, with a deep attachment to a few, was his peculiar mode. . . . He formed few close friendships, and was absorbed very early by his one great attachment." [23] One may note in Mill not only the absence of the crude expression of strong emotion and the somewhat dilute emotion associated with his social relations in general, but also the moderation of the simple appetites; in the so-called sensual feelings, he was considered to be below average, "not a good representative specimen of humanity in respect of these," and he was exceedingly moderate in indulging in the pleasures of the palate.

Friendship is a complex relationship with many components. It is one thing to establish rapidly an intimate personal bond, it is another thing to weave it as a permanent element into the structure of one's life; thus Heinrich Heine [24] "with all his faculty of fascination, was constantly estranging friends."

The special quality of the individual personality is determined not only by the amount and direction of its output of energy, the response to pleasure and pain, the color of mood and the play of emotion, but also by the nature of its influence on and reaction to other persons. The relationship of the individual to other persons is not adequately dealt with by the mere reference to mood

[23] Bain, Alexander: *op. cit.*

[24] Sharp, William: *Life of Heinrich Heine.* London, Walter Scott, 1888.

and emotion, although these are important components in the personal interplay between him and his fellows. The direct influence of person on person, a topic of the greatest individual and social significance, involves additional factors to those mentioned above. The direct influence of one man on another, and the susceptibility of one man to the influence of another, are factors which enter into all personal relationships, and which accompany all social activities, but the importance of which is often not recognized. In domestic, educational, industrial, social and political situations emphasis may be laid on general principles and concrete situations, while no reference is made to the immediate effect of the personality of certain individuals, which may be the crucial element in the situation but seems to defy analysis.

The systematic analysis of the personality into component functions, and the study of these functions by special tests or a careful scrutiny of the history of the individual, still leave scope for the evaluation of the personality as a whole. Andrew Carnegie showed a special capacity for judgments of this type: "I have known Mr. Carnegie," said William C. Temple, "to pick out a man who to the world at large was an absolute failure and utterly worthless for anything you could think of and put him in a position where everyone predicted his failure, and he would fit just like the tumblers in a Yale lock. . . . As a picker of men for certain positions I do not think that Mr. Carnegie has ever had his equal. It is useless to attempt an analysis of this quality. The trait lies far beyond the realm of definition." Carnegie took pleasure in

this special ability: "that most complicated of all pieces of machinery, man, has been my province." [25]

As through the special senses one analyzes the simple impressions from the outside world, so the total personality of the individual serves as a very sensitive receptor to the personality of others. In virtue of this delicacy of response the individual may immediately and intuitively appreciate subtle qualities and values of another, and may be subtly influenced in many ways, in thought, and act, and feeling by the power that emanates from the other. Under the influence of the personality of another, people buy goods which they do not require, suffer from ailments for which there is no bodily cause, carry out enterprises of which they had not believed themselves capable, accept beliefs which are in striking conflict with their general creed, are infected with likes and dislikes and enthusiasms which are foreign to their own individual tendencies and are not derived from their own individual experience. The susceptibility to the influence of another varies from individual to individual, it varies with age, sex and race.

The suggestibility of the child as well as its lack of experience makes it particularly subject to the influence of another. Charles Darwin, himself inclined as a boy to "inventing deliberate falsehoods," was not on that account on his guard against the statements of others, but being "a very simple little fellow" accepted at its face value a schoolmate's statement that the local tradesmen

[25] From *The Life of Andrew Carnegie,* by Burton J. Hendrick. Copyright, 1932. Reprinted with permission from Doubleday, Doran and Company, Inc.

would supply goods free to any schoolboy who moved his old hat in a certain manner.[26]

The adult, too, accepts frequently in an automatic and uncritical way statements which, when challenged, are at once rejected by his reason; the acceptance may be favored by the official title or prestige of the speaker, or by the invocation of such magical words as liberty, democracy, science. The influence of the individual may be exerted not by the content of the spoken phrase, but by the tone of voice, by gesture or behavior; the raised eyebrow may unsettle a firm conviction, the shrug of a shoulder may weaken our admiration, the appearance of indifference may chill our enthusiasm, the gravity of the countenance may stir up apprehension, eliminate hope. Our emotions and our output of energy, our perceptions and our memories are responsive to the appearance and behavior of our fellows. The performers in cheap platform demonstrations of hypnotism, who pluck imaginary apples, eat candles with gusto, are terror-stricken by non-existent lions, are but giving an illustration of the force of suggestion or direct personal influence which plays an important rôle in everyday life.

The direct influence of one person on another is a complex product composed of many elements, the physical appearance, the revelation of the inner life by play of facial expression, by utterance, and by behavior. Different individuals may be affected by different traits in the same person. As noted in the previous chapter the voice is one

[26] Darwin, Francis: *The Life and Letters of Charles Darwin,* including an autobiographical chapter. London, John Murray, 1887.

of the most important factors in personal influence. The first contact with a personality over a telephone may at once establish a close bond with the speaker, while in other cases it may obviate the necessity of a personal interview. The grossest social, economic and political heresies have a fair chance of being at least temporarily accepted by a crowd if uttered by a voice of special resonance and timbre. Sermons, which to us are cold and dead, when borne on the human voice once thrilled great audiences and perhaps influenced the lives of many. In such a situation the influence of the group factor is important; in a group, whether composed of the intimate members of a spiritualistic séance or the heterogeneous elements of a religious or political meeting, the response of each individual tends to be increased by and to increase the response of his neighbors, and the orator on the platform may be seriously dependent on his audience for the force of his demonstration.

The response to an individual or to a situation is often determined less by the objective data than by the cultural beliefs which impregnate the atmosphere. Thus, under the influence of the glamour of the East, of the Shah of Delhi and perhaps of some special stimulant, that sturdy Arabian traveler of the fourteenth century, Ibn Batutu, saw a Yogi rise from the earth and remain floating in the air, where he was later followed by a sandal, which brought the floating man back to earth. The astonishing sight caused Ibn Batutu to faint: "I returned home. When I came home I was overcome with palpitation and was sick, but the Sultan had a medicine prepared

for me which restored me to myself." [27] Where such stories are part of the current beliefs of a community, the individual immersed in such beliefs has his perceptions and memories so molded by these beliefs that his own experience tends to confirm them.

Throughout the ages, among primitive and civilized peoples, in all climes, with all religious beliefs, man's reaction to the personality of his fellow man has been profoundly influenced by suggestion. Under the influence of suggestion he has been rendered deaf and blind, his limbs have been paralyzed, he has had convulsions, he has seen and heard what had no objective existence, his memory has been falsified. Alfred Russell Wallace in his residence in Brazil was astonished to find that the young natives of Manaos were as susceptible to his influence as the schoolboys of England.[28] He had apparently considered the phenomenon of suggestion or hypnotism as a European perquisite instead of recognizing it as one of the most primitive of human reactions. It was with interest that he watched his brother by the mere suggestive influence of his words lay an Indian prostrate on the ground, pleading to be delivered from the constraining force of the white magician.

The phenomena of suggestion have furnished the material for an interesting chapter in medical history. Janet [29] has sketched the influence of Mesmer on his contemporaries, his reception by the fashionables of Paris,

[27] Stoll, Otto: *Suggestion und Hypnotismus.* Leipzig, K. F. Koehler's Antiquarium, 1894.

[28] Wallace, A. R.: *My Life.* London, Chapman and Hall, Ltd., 1905.

[29] Janet, P.: *Les Médications Psychologiques.* Paris, F. Alcan, 1919.

by the credulous, the sceptical and the unbiased, the diverging paths taken later by those interested in the effects of suggestion; one path led to the serious and systematic study of those aspects of the influence of one man on another, included under the terms suggestion and hypnotism, the other path led through the uncritical interpretation of the same phenomena to the formation of quasi-religious groups and pseudo-scientific healing cults.

The physician who fully appreciates the influence of suggestion is better equipped to understand the origin of many symptoms and to remove the handicaps of his patient; the historian of culture will see the influence of suggestion in the transitory vogue of many scientific, social, political and religious doctrines.

The far-reaching results of the direct influence of one personality on another, and some of the conditions of that influence, are illustrated by that sinister figure in recent Russian history, Rasputin. His influence on those with whom he came into contact varied with their personality, cultural background, actual life situation. His influence on the Empress Alexandra was largely explained by her background of religious mysticism, and by her intense craving for help for her delicate child. Count Isvolski [80] attributes Rasputin's influence over the majority of those around him to the different religious and mystical movements so familiar in Russia, which did so much to mold the thought and emotions both of the classes and the masses. On one occasion Stolypin, the Premier, had sum-

[80] Isvolski, A. P.: *Memoirs of Alexander Isvolski.* Translated by Charles Louis Seeger. London, Hutchinson and Co., 1920.

moned Rasputin to his study to answer to charges of notorious public immorality. Stolypin gives his own account of his experience with the "inspired of God." "He ran his pale eyes over me, mumbled mysterious and inarticulate words from the Scriptures, made strange movements with his hands, and I began to feel an indescribable loathing for this vermin sitting opposite me. Still I did realize that the man possessed great hypnotic power which was beginning to produce a fairly strong moral impression on me, though certainly one of repulsion. I pulled myself together. . . ."

Rodzianko, Speaker of the Duma, a huge man, physically robust, and of demonstrated will power, gives his account of a similar contact with Rasputin. Rodzianko mentions that he himself had had frequent experiences of hypnotic suggestion, and this reference to his personal interests and tendencies may explain a special susceptibility to mysterious personal influences. At the Tercentenary Celebration of the Romanov dynasty, Rodzianko noticed that Rasputin, uninvited, had wormed his way into the place for honored guests at a service in the Kazan cathedral in Petrograd. Rodzianko ordered him out, and received an insolent reply. He threatened to drag "the inspired one" from the cathedral and demanded the respect due to the President of the Duma: "Rasputin faced me and seemed to run me over with his eyes; first my face, then in the region of the heart, then again he stared me in the eyes. This lasted for several moments. . . . I felt myself confronted by an unknown power of tremendous force. I suddenly became possessed of an almost

animal fury, the blood rushed to my heart, and I realized that I was working myself into a state of absolute frenzy. I, too, stared straight into Rasputin's eyes and, speaking literally, felt my own starting out of my head. Probably I must have looked rather formidable, for Rasputin suddenly began to squirm. . . ." [81] Rasputin exerting a powerful influence on a cultured statesman in an imperial European court of the twentieth century has much in common with the witch doctor or medicine man exploiting the animistic beliefs of primitive man, but in addition to the power derived from this tradition he contributes an individual factor due to his own intense vitality.

In each individual this special dynamic quality, made evident in his impact on his fellows, contributes along with the general output of energy and the special qualities of the emotional life to give the personality its special stamp and to determine the nature and value of his relations with his fellows.

The personality of the individual, as observed in his external relations, is characterized by the output of energy, by the nature and intensity of the moods and the emotions, by the influence on and response to his fellows, by the program of activity resulting from his tastes, interests, skills, code of values. These factors express themselves directly and openly in speech and action, and are revealed to the individual himself by introspective study.

Other dynamic factors of subtle and complex nature

[81] Walsh, Edmund A.: "The Fall of the Russian Empire." I. The Part Played by a Woman. *Atlantic Monthly, 141,* pp. 53-54, 1928.

enter into the structure of the personality, but live a subterranean life beneath the threshold of consciousness. Some of these factors, although closely related to the wishes, fears, loves, hates, memories, phantasies, which play their rôle on the stage of consciousness, have themselves no direct entrée to this stage under the ordinary conditions of social life. They may be represented by some of the official players, may appear in disguise, may exert an influence on the players from behind the wings. In the special atmosphere of the consulting room, where conventional repressions and disguises are out of place in view of the seriousness of the issues involved, these repressed factors may gradually emerge on the stage of consciousness, and mix shyly with the official members of the troupe. The result of this process is a change in the dynamic equilibrium of the personality. The energy previously expended on repression is now available for external purposes, and in the internal equilibrium the previously repressed factors take their place with the accepted factors according to a more or less orderly system or hierarchy.

The fact of repression is determined by the cultural demands of the environment, by the fact that the personality is not an isolated unit but is intimately knit up with the social group and delicately sensitive to the reactions of the group. Some pleasure-giving activities are disapproved or absolutely condemned by the cultural code; childhood activities and modes of satisfaction should in the normal evolution of the individual be superseded by more mature behavior; egoistic demands must

be subordinated to the needs of the group. Attention has already been called to the fact that many pleasure-seeking tendencies, overtly expressed in infancy and childhood, come at an early age under the cultural ban through the training of the nursery. These repressed desires, connected with bodily manipulations and the indulgence of the senses, though banned from conscious acceptance and indulgence do not necessarily atrophy; they may contribute an important component to the realm of the subconscious forces. In the psychic maturation of the individual, as in the physical sphere, there may be a hitch. Early phases of development may exert an unusual fascination, inertia or conservatism may postpone the natural progress; thus the growing child may protest against the normal dietetic progress, may cling to the early sleeping arrangements, prolong his baby talk and his general dependence on the mother. Even where the actual progress of the individual shows no overt arrest at any stage, the early stages may exert an unusual fascination on the individual; the haunting desire for childhood satisfactions, repressed from consciousness as incompatible with the standards of the adult, may influence not only the dreams but the waking behavior of the individual. The degree of persistence of early tendencies, whether subject to taboos or not, varies from individual to individual. The matron may preserve sentimentally the dolls of her girlhood, the business man continue his boyhood collections, and mature men and women in special reunions allow themselves to resume for a brief period the uncensored and exuberant speech and behavior of their early years. Beneath the

official life of the sober business man flits a Puck-like spirit that represents his boyish past, and it is the presence of this spirit that makes him somewhat envious of a Shelley, the *puer eternus,* playing with his soap-bubbles and his paper boats.

As the conscious personality may under cultural influence repress or deny direct expression to certain crude or immature pleasure-seeking tendencies, so it may exclude egoistic or self-seeking tendencies which conflict with the accepted standards of socialized behavior. The individual as an organic member of the community has to work within the conditions determined by the needs of the group; the social demands restrict his purely egoistic tendencies in the same way that the needs of the team or the crew restrict the self-expression of the individual member. In the face of a cultural code which restricts self-assertiveness, self-expression and self-seeking, the individual conscious of a strong craving for self-expression and personal recognition, if he be responsive to the environmental influence, may feel distressed over these characteristics; another may blind himself to their presence, repress them from his consciousness, and emphasize the social or altruistic aspect of his behavior. A repressed and unrecognized tendency to self-assertion and a craving for personal recognition may play a part in the apparent self-surrender of the ascetic and the martyr. The reformer apparently absorbed in the interests of the group, emphasizing the brotherhood of man and the political, social and economic conditions necessary for its realization, may unknown to himself be driven by repressed hatred of his

own kith and kin, by a desire for domination, and by an abounding self-love.[32]

The fact of repression is one of the most important factors in the dynamics of the individual personality. In virtue of this function, material which cannot be assimilated by the personality and woven into its structure, unable to express itself directly or in some modified form that is socially acceptable, disappears from the field of consciousness and from the recognized purposes of the individual. As far as consciousness is concerned it does not exist; if it manifest its presence in some action, thought or feeling, that manifestation is explained by the individual on other grounds and is fitted into his official view of his impulses and his motivations. The individual does not trace to its real source, behavior based on subconscious factors any more than the subject of a hypnotic experiment traces his behavior to the submerged influence of the hypnotic suggestion. In both cases the individual, blind to the influence of the subconscious factor, sees his behavior as part of a rational system of conscious motives.

The analysis of the personality must take stock of the dynamic factors in the realm of the unconscious, many of these factors having been repressed on account of their conflict with cultural demands, others representing memories too difficult to assimilate, while still other factors represent obscure creative impulses undergoing elaboration before they finally emerge into consciousness.

[32] *Vid.* Lasswell, Harold D.: *Psychopathology and Politics.* Chicago, The University of Chicago Press, 1930. Pp. 79, *et. seq.*

Quite apart from the influence of the social factor, the personality may have difficulty in admitting to consciousness factors which are painful and disturbing. The individual tends automatically to exclude from observation and from memory those data which are painful, facts with regard to his own person, his family, his college, his country. Dr. Mark, reviewing retrospectively the course of the acromegaly from which he suffered, records his astonishment at the fact that for years he had each day seen the deformity of his face in the looking-glass without perceiving that pathological transformation which was so obvious to others. The individual tends to overlook the defects of the persons and institutions with which he identifies himself, he tends to be blind to the virtues, the successes, the discoveries of his rivals and his enemies. Memory as well as perception is influenced by this tendency; we forget our unworthy actions, our disconcerting experiences, the observations which are contrary to our pet scientific theories. That conscientious observer, Charles Darwin,[33] notes in his autobiography: "I had also, during many years followed a golden rule, namely that whenever a published fact, a new observation or thought came across me, which was opposed to my general results, to make a memorandum of it without fail and at once; for I had found by experience that such facts and thoughts were far more apt to escape from the memory than favourable ones. Owing to this habit, very few objections were raised against my views which I had not at least noticed and attempted to answer."

[33] Darwin, Francis: *op. cit.*

Catastrophic experiences may be more than consciousness can assimilate, and in the ensuing turmoil one may find that the conscious memory retains no trace of the disturbing event. The wife after a heart-breaking marital experience, the mother after the tragic death of her children, may be unable to maintain her mental balance and may try to find peace by banishing from memory the period of her married life. Schopenhauer,[34] keenly interested in and observant of mental disorders, thus formulates the situation: "If some worry or painful knowledge or memory is so painful that it is absolutely intolerable and the individual would be crushed by it, then nature, tortured to that extent, reaches towards insanity as a last means of saving life. The tortured spirit tears, so to speak, the thread of memory, fills the gaps with fictions and so takes flight from the pain which goes beyond its strength, in insanity."

In the subconscious may also be found hovering the ghosts of those alternative selves which once had the possibility of a place in the sun along with the other human toilers. William James [35] refers to this painful necessity of choice: "I am often confronted by the necessity of standing by one of my empirical selves and relinquishing the rest. Not that I would not, if I could, be both handsome and fat and well-dressed, and a great athlete and make a million a year, be a wit, a bon-vivant, and a lady-killer, as well as a philosopher; a philanthropist,

[34] Quoted by Juliusburger: "Die Bedeutung Schopenhauers für die Psychiatrie." *Allg. Ztschr. f. Psychiatrie,* Vol. 69, 1912.

[35] James, William: *The Principles of Psychology.* Vol. II. London, Macmillan and Co., 1891.

statesman, warrior, and African explorer, as well as a 'tone-poet' and saint." Pearsall Smith [36] also pays tribute to these alternative selves and plaintively laments the limitations of human personality: "What a bore it is, waking up in the morning always the same person. I wish I were unflinching and emphatic, and had big, bushy eyebrows and a Message for the Age. I wish I were a deep Thinker, or a great Ventriloquist. I should like to be refined and melancholy, the victim of a hopeless passion; to love in the old, stilted way, with impossible Adoration and Despair under the pale-faced Moon.

"I wish I could get up; I wish I were the world's greatest Violinist. I wish I had lots of silver, and first Editions, and green ivory."

The various factors which we have so far referred to in the subconscious are not passive elements in the total system of forces of the organism, they exert an important influence on the official personality. The repressed factors may break through in the dramatic form of an episode of mental disorder, they may make their presence manifest over prolonged periods by obscure invalidism, by morbid fears and scruples and rituals, by somewhat extreme emphasis on religious, intellectual, æsthetic, social values, by an individual and eccentric picture of the world. In less extreme form in the life of every one of us, beneath the level of conscious thoughts and official motives, of recognized feelings and actual program of activity, there live the ghostly survivors of desires and

[36] From *Trivia,* by Logan Pearsall Smith. Copyright, 1917, by Doubleday, Doran and Company, Inc.

tendencies which have not been satisfied, of experiences which have not been digested, of attitudes which have not been outlived. They come up in our dreams at night, they flit past us in our day-time reveries, they thrust their mysterious arm in a disconcerting way into the orderly program of our speech and action.

The realm of subconscious forces is not to be looked on as merely the tomb of the past, the abode of discarded or exiled tendencies, it is also the womb of the future. Beneath the conscious purposes and adaptive activity, which seem to absorb the attention and monopolize the energy of the individual, intellectual formulations and daring enterprises may be quietly and unconsciously maturing until suddenly they break through into the conscious life of the individual, a startling revelation.

Julius Robert Mayer, who first propounded the law of the conservation of energy, furnishes an example of an important scientific generalization suddenly crystallizing in consciousness in a way that is not explained by the preceding conscious interests and preoccupations of the individual. Mayer, the son of an apothecary, at school had in no way distinguished himself; he was sent down from the university for some infraction of rules, he took his medical degree with a thesis on santonin of no special distinction. He sailed for Java as ship's surgeon to see something of the world before settling down to the routine of a doctor's life. He was not conscious that the casual remark of a steersman, that the sea after a severe storm is notably warmer than before, had any influence on the direction of his thought. At Sarabaya he noticed,

incidentally, that the venous blood taken from the sailors was unusually bright in color; the resident physicians told him that owing to the heat of the tropics less oxidation of the blood was necessary for the maintenance of bodily warmth. There occurred to him the question of the relation between the oxidation of food, the development of heat, the production of work, and there sprang into his mind the idea that heat and work might be interchangeable as things of the same order, to us a commonplace thought, in 1840 an epoch-making hypothesis. Fascinated with this idea, Mayer had little interest for the novelty of his tropical environment, but remained on board, brooding over his problem, working without interruption: "and during many hours I felt as if I were inspired, in a condition the like of which I cannot remember either before or after." Mayer devoted the rest of his life to the establishment on a broad basis of this doctrine of the conservation of energy, which had appeared to him like an inspiration. Ostwald [87] compares this sudden eruption of a scientific discovery, prepared in the subconscious, with religious experiences such as that of Saul on the road to Damascus.

Many authors have emphasized the rôle played in their literary creations by processes of which they have no conscious knowledge and over which they have little control. Their characters at a certain stage attain an independent existence and free themselves from the conscious direction of the author. Barrie [88] refers in his whimsical way

[87] Ostwald, Wilhelm: *Grosse Männer.* Leipzig, Akademische Verlagsgesellschaft, 1910. 3e Auflage.

[88] Barrie, J. M.: *Courage.* London, Hodder and Stoughton, Ltd., 1922.

to that part of his personality which dominates his literary activity. His official conscious self is dour, and practical and canny, dealing with the demands of life in a prudent and efficient way, but inner forces beyond his personal control, to which he gives the name McConnachie, control his destiny and drag him round in their wake. McConnachie, in contrast with Barrie's official personality, is impulsive, fantastic, romantic; "McConnachie is the one who writes the plays."

A vivid account of how obscure inner forces working in the depth of the personality may dominate conduct, is furnished us by Conrad. In his personal record Conrad [89] has described how unconsciously, inevitably, through some unknown inner compulsion he was forced to write his first book, *Almayer's Folly:* "The necessity which impelled me was a hidden, obscure necessity, a completely masked and unaccountable phenomenon." So alien did this phenomenon appear to his ordinary conscious purposes and ambitions that he jestingly proposes the hypothesis, "perhaps some idle and frivolous magician (there must be magicians in London) had cast a spell over me through his parlour window as I explored the maze of streets east and west in solitary, leisurely walks without chart and compass.". . ."The conception of a planned book was entirely outside my mental range when I sat down to write; the ambition of being an author had never turned up amongst these gracious, imaginary existences one creates fondly for oneself at times in the stillness and im-

[89] From *A Personal Record,* by Joseph Conrad. Copyright, 1912, by Doubleday, Doran and Company, Inc.

mobility of a day-dream: yet it stands clear as the sun at noonday that from the moment I had done blackening over the first manuscript page of *Almayer's Folly* (it contained about two hundred words, and this proportion of words to a page has remained with me through the fifteen years of my writing life), from the moment I had, in the simplicity of my heart and the amazing ignorance of my mind, written that page, the die was cast. Never had Rubicon been more blindly forded, without invocation to the gods, without fear of men."

Beneath the conscious purposeful life of the scientific investigator or creative artist, obscure forces may be slowly working toward a goal, no vision of which has yet been vouchsafed to consciousness. In other cases the goal of endeavor may be clearly realized and the image of its attainment may be a stimulus under the directing influence of which the individual conjures up ways and means with more or less spontaneity, variety and originality. Not only in the creative work of the writer, the artist, the composer, but also in the constructive work of the industrialist, the philanthropist, the statesman, the imagination plays an important rôle. Imagination need not, however, dance attendance on constructive activity, it may play a more independent part, it may even compete on an independent basis with the latter. The image of a desired goal, created in response to sensory, intellectual, artistic, egoistic needs may have another effect than to stimulate and to direct; it may of itself be so pleasing and satisfying that it obviates the necessity of putting forth the effort of real accomplishment. Even

where the real attainment of the goal is possible, the charm of the image may be so great that the individual prefers the facile satisfaction of phantasy to the arduous one of actual accomplishment.

In other cases no actual contribution may seem possible, in view of the inadequate resources of the individual, or the intractable nature of the situation. Then, in face of the impotence of the forces of the personality to wrest satisfaction from struggle with the stubborn stuff of things phantasy is called on, and out of privation, failure and death may weave an airy structure that buoys up the personality and enables it to carry on with its social task.

There are pedestrian souls in whom the life of phantasy plays little part, there are blithe spirits to whom the products of phantasy have more reality than the solid objects of their mundane environment. The child at play transforms a drab environment into a fairy world of enchantment; the adult may derive his major satisfaction from a phantasied life borrowed from fiction, film or stage. To some, imagination may merely furnish a means of unproductive and solitary indulgence; to others it may furnish the material which by sweat of brow is forged into a valuable and enduring possession. Thus the product of the poet, though begotten of phantasy, is no mere idle utterance, it is a poem or *poema,* a thing made by the toil of the spirit.

The terms used in the piecemeal discussion of the various aspects or tendencies of the personality are apt to give the impression that these tendencies are independent things or forces which, when fitted together, make up the

complicated system of the personality. One talks of mental mechanisms or dynamisms, of the various regions of the mind, of the dynamic balance between various factors, of the dissociation of one factor from others. In trying to avoid the language of mythology, with psychological functions for heroes, one is tempted to borrow the idiom of government. The personality may then be represented as a federation of states in which the central control is variable, interstate conflict frequent, and actual secession not unknown. The federal authority may show various attitudes to the several members of the federation; it may officially accept the domination of a powerful state, it may find it prudent to be blind to and overlook the activities of another state, it may be glad to utilize a suitable diplomatic formula to cover rank insubordination and regional self-seeking. The personality may temporarily surrender control to the appetites or the crude passions; it may observe the controlling influence of the lower motives while deploring it, *video meliora proboque, deteriora sequor;* it may completely disavow central responsibility for special types of behavior, as in automatic writing, fugues, the phenomena of multiple personality and of the spiritualistic séance when *bona fide.*

It is well to emphasize the fact that each detail of the behavior of the individual is but one aspect of the adaptation to its environment of a unitary organism, which in its earliest and simplest stage was a fertilized ovum, a single cell. Structures and functions have developed, adaptations of great complexity have been elaborated

which throw the chief stress of function now here, now there, but each phenomenon of the personality on which we concentrate our attention is but one aspect of the maintenance by the organism of its internal dynamic equilibrium and of its adaptation to the total situation.

At the same time as we pay tribute to this unitary quality of the organism we must recognize the difference presented by individuals in regard to the comparative independence of the part-functions of the personality. In some, the various functions seem to be closely knit or integrated into a balanced system or hierarchy of forces; in such a system each component function seems to be in stable relation to the others, and to make its due contribution to the total system without undue tension or conflict. Such a personality not only presents at any one moment a balanced and orderly system, but shows over a period of time a certain continuity and consistency. In other individuals the part-functions seem less closely knit into a unitary system, they have a greater independence; they seem less responsive to the demands of the other functions, to the needs of the whole. In such a personality, inconsistent tendencies exist side by side, exerting little influence on each other; primitive superstition holds its own side by side with cultural acquisitions, crude appetites and high ideals both find expression, the juvenile and the mature, the egoistic and the altruistic come to the surface little modified by each other.

In some apparently well-unified personalities a latent weakness of the central control may be elicited by a variety of factors, by the stress of circumstances or by

the tension of unsatisfied desires. Thus in automatic writing the individual may produce fragmentary or elaborate compositions, the source and significance of which are quite foreign to his consciousness; in the spiritualistic séance the medium may disclose information and show aptitudes which are unknown to her in her normal condition; in a fugue an individual may carry out complicated maneuvers to attain goals which he has not consciously desired; in the case of double personality the alternating periods of the individual's life may be dominated by strikingly different systems of memories, sentiments, motives, and in each period the dominant system seems to have no connection with the system revealed in the other period. *Dr. Jekyll and Mr. Hyde* gives literary expression to this possibility of human nature.

In analyzing the individual personality, the above facts must be kept in mind. It is not enough to characterize the special type which the individual presents, to evaluate the output of energy, the quality of the feeling-life, the special skills, the rôle played by phantasy, to scrutinize the varied interests and tendencies, it is also important to study the integration of these numerous components. The quality of the personality depends on the nature of the integration of its components as well as on the special quality of these component factors.

CHAPTER V

THE PERSONALITY AND SOME OF ITS TASKS

In the preceding chapters we have discussed in outline the general organization of the personality, have reviewed its specialized activities or component functions, have emphasized the contribution made to the individual personality by certain components or by the special interrelation of the various functions. The discussion of these functions has necessarily involved some reference to environmental stimuli, some mention of the demands made on the organism by the environment and on the environment by the organism, but our attention has to a large extent been concentrated on the part-functions of the personality.

It may be of value now to consider the personality as a whole, as it deals with some of its main tasks, mobilizing the resources and utilizing the forces with which the preceding discussion has made us familiar. The organism has the task of maintaining its integrity, of establishing a balance between conflicting tendencies, of utilizing its resources to compensate for original or acquired defects. It has the task of attaining satisfaction from the exercise of its varied functions with the external resources at its disposal. In this task of attaining satisfaction the indi-

vidual is responsive to the attitude of his fellows, covets a feeling of personal value, strives to neutralize any disturbing feeling of personal inferiority.

The fundamental characteristic of life is the fact that an extraordinarily unstable and complex dynamic system somehow or other has the capacity to maintain its identity notwithstanding the continuous interchange between the organism and the environment. This quality of tenaciously maintaining its identity expresses itself in the more complex organisms by the so-called instinct of self-preservation, with its highly adaptive behavior. At the level of the human personality the same tendency finds expression in conscious purpose. Captain Scott and his antarctic companions had at their disposal the necessary drugs with which to end their life, and had considered the possible deliberate termination of their career. When, however, it became evident that the game was up and that they could not win through to their supply camp, some inner urge bade them carry on: "I do not think we can hope for any better things now. *We shall stick it out to the end,* but we are getting weaker, of course, and the end cannot be far." [1] Thus in the face of the maximum of privation, with no opportunity for constructive activity, the individual may still refuse to terminate the play and ring down the curtain.

Man does not live by bread alone, and for the maintenance of its integrity the personality is dependent on an exchange of social and cultural forces with the environ-

[1] *Scott's Last Expedition* in two Volumes. Volume I being the journals of Captain R. F. Scott, R.N., C.V.O., arranged by Leonard Huxley. New York, Dodd, Mead and Company, 1913.

ment as well as on the exchange of energy and matter at the physico-chemical level. In the absence of such cultural exchange the personal equilibrium may be seriously disturbed; under the stress of solitary imprisonment the personality, trying to maintain its equilibrium, may be thrown back on the resources of phantasy, prolonged imprisonment may lead to the permanent deterioration of the personality. "Stone walls do not a prison make," and a woman, from whose married life all romance has faded away, may find herself imprisoned in the narrow confines of a dreary housekeeping régime, with the personality unsuccessfully endeavoring to maintain its integrity.

The circumstances which in one individual may lead to deterioration or disorder of the personality may in another act as a stimulus to the full development of the resources of the personality, or as a protection to its individual qualities. Bunyan's emprisonment, lax as it was, may have fostered his vivid imagination. A certain detachment from social contacts may have helped to preserve the individuality of the youthful Shelley. His feelings had been wounded by the bullying of his schoolmates and Shelley, to quote the words of his biographer, Francis Thompson,[2] "fled into the tower of his own soul, and raised the drawbridge. He threw out a reserve, encysted in which he grew to maturity unaffected by the intercourses that modify the maturity of others into the thing we call a man. The encysted child developed until it reached years of virility, until those later Oxford days in which Hogg encountered it; then, bursting at once from

[2] Thompson, Francis: *Shelley*. London, Burns and Oates, 1912.

its cyst and the university, it swam into a world not illegitimately perplexed by such a whim of the gods." The wild student carousing of Wagner was a different phenomenon from the reserve of Shelley, but may have served the same purpose of defending the integrity of the developing personality: "In the midst of the turmoil of the noisiest dissipation I remained quite alone, and it is possible that these foolish experiences formed a protective crust around my inner core, which for a somewhat long period required the natural growth of strength in order not to be prematurely weakened through precocious productivity." [8]

After the task of maintenance comes that of establishing order. As the state has to maintain a well-balanced system of internal administration and regulation, as well as an efficient foreign policy, so the individual has to regulate the conflicting forces within his nature as well as to adapt himself to external demands. The two problems are intimately connected and, as a nation with internal difficulties sometimes seeks an equilibrium through external complications, so in the human personality domestic and foreign policy may be closely interwoven.

The individual has the problem of establishing some sort of hierarchy for the conflicting demands of the appetites and the more complex needs, some consistency and continuity in the direction of his life of action, some order and system in his outlook on the structure of the world. In some individuals the integration of the various functions of the personality is weak; the lack of unification or

[8] Wagner, Richard: *Mein Leben.* München, F. Bruckmann, 1911.

integration may show itself in illogical thought, impulsive and unpredictable behavior, moods and emotions which may surprise the individual himself as well as others, motivations which seem to follow no rule, judgments of value which fit into no system. It is a major task to coordinate in a harmonious whole the claims of the appetites and the rights of the ideal, to do justice both to the egoistic and the social tendencies in our nature, to accept the mature and the adult without doing violence to the immature and the childlike which still persist, to allow its due to the imagination while still being guided by logical and realistic thought. The doctrinaire may find the task comparatively easy; a few rigid formulæ and a set creed may furnish him with a sufficiently definite chart, and everything that is incompatible with the official code may be strictly repressed. The doctrinaire, however, may not always find it plain sailing, he may have to pay the penalty for not allowing nature a reasonable degree of expression and for not giving the devil his due. The conventional clergyman may find himself distressed by the eruption into his mind of obscenities and profanities; the hermits in the desert were plagued with images, to escape from the originals of which they had abandoned society.

The task of integration may be easy for those who live a life of rather low potential with no great tension, no marked insistence of the appetites, no intensity of personal affection, no great urge for self-expression, no great eagerness or enthusiasm. Many individuals, plagued by their difficulties, sometimes envy this type of personality; there may be times when one even envies the placidity of

the cow or the calm existence of the sessile cabbage. On the other hand, effort and conflict are recognized to have great value:

A spark disturbs our clod
Nearer we hold to God
Whose wheel the pitcher shaped.

In maintaining its equilibrium, the organism has a great capacity for adaptation and compensation at various levels. The failure of one kidney may lead to hypertrophy of the other, damage to the valves of the heart may lead to compensatory development of the muscle walls. So at the level of the more complex functions the lack of satisfaction of one appetite may be balanced by the satisfaction of another, unpleasant emotion from one source may be neutralized by pleasant emotion from another, when one outlet for activity is blocked another may be substituted, absence of satisfaction from the real world may be compensated for by satisfaction from the world of phantasy, failure of egoistic ambition may lead to successful emphasis on social contributions.

The balancing or compensatory function of the personality may be elicited by a variety of factors, by a simple or complex defect in the organic or personal equipment, by a special handicap in the social endowment, by discontent with one's personal value.

A defect of structure or of function may influence the personality in two ways, first by handicapping the individual in the ordinary tasks of life and secondly by affecting unfavorably the opinion of others as to the value of the individual.

Sensory and motor defects, whether congenital or acquired, and special disabilities such as the special difficulty experienced by some otherwise bright children in learning to read, involve a special demand on the general resources of the individual, are liable to cause undue fatigue and discouragement, and may thus give a certain twist to the attitude of the child and the adult toward his tasks and toward life in general. The reaction of the personality to sensory defect depends to a certain extent upon whether it is recognized and allowed for by those around and frankly faced by the individual himself. The adult who is hard of hearing has a somewhat more difficult time than the individual with impaired eyesight. The former is more shut off from free intercourse with his fellows, he has a constant temptation to conceal and minimize the defect. With the blind this temptation is much less, the defect must be frankly recognized. The placidity of the blind contrasts with the irritable and suspicious tendency so frequently present in those hard of hearing.

That the personality may have resources adequate to compensate for the most severe sensory defect is illustrated by Miss Helen Keller, who under the devoted training of Miss Sullivan not only attained a sound personal equilibrium and academic distinction, but thereby was a source of inspiration to her generation.

The biographer of Theodore Roosevelt describes how the latter mobilized his resources to deal with the physical handicaps of his youth: "His father fitted up in the house on Twentieth Street a small gymnasium and said to the boy in substance, 'You have brains, but you have a

sickly body. In order to make your brains bring you what they ought, you must build up your body; it depends upon you.' The boy felt both the obligation and the desire; he willed to be strong, and he went through his gymnastic exercises with religious precision. What he read in his books about knights and paladins and heroes had always greatly moved his imagination. He wanted to be like them. He understood that the one indispensable attribute common to all of them was bodily strength. Therefore he would be strong. Through all his suffering he was patient and determined. But I recall no other boy, enfeebled by a chronic and often distressing disease, who resolved as he did to conquer his enemy by a wisely planned and unceasing course of exercise." [4]

Lord Byron with his congenital club-foot, unable to take part in the usual games of youth, devoted himself with unusual assiduity to swimming and riding. Ignatius Loyola, a wild, romantic youth, had his military career abruptly terminated when his leg was shattered by a cannon shot at the battle of Pampeluna. During his convalescence he diverted his energy from dreams of war and romance to religious preoccupations, and henceforth devoted his total energy to this new field of endeavor. The careers of many soldiers crippled in the recent World War were abruptly diverted from their previous channels, and in their new occupations many soldiers attained greater success than in their previous pursuits.

The personality may have to reckon not with some

[4] Thayer, William Roscoe: *Theodore Roosevelt.* Boston and New York, Houghton, Mifflin Company, 1919.

special defect of the bodily systems, but with a more subtle handicap, and this, too, if frankly faced may be a spur to great achievement. One of the letters found in Captain Scott's tent at the antarctic was written to a friend asking him to take an interest in the education of Captain Scott's son: "Above all, he must guard and you must guard him against indolence. Make him a strenuous man. I had to force myself into being strenuous as you know. . . . I had always an inclination to be idle." [5]

While a physical handicap may, in some, act as a stimulus and a challenge, and call forth all the resources of the personality, it may also be compensated for in other less desirable ways. The dissatisfaction arising from one's personal defect may be lessened by disparaging the particular goal we cannot reach ("sour grapes") or the activity in which we are inferior, or by decrying the merits of others. The student more distinguished for brawn than brains may refer contemptuously to "the pundit" or the "greasy grind," while the anæmic scholar gets comfort from thinking of "the flannelled fools at the wicket or the muddied oafs at the goal." The bitter and satirical attitude of Pope was no doubt in part due to his physical deformity; Byron, whose deformity allowed him to ride and to swim, satirized and discouraged dancing.

More important than the intrinsic importance of a physical or mental handicap, with its special challenge to the resources of the individual, is the importance of the handicap as it affects the opinion of others. The abnormality may be negligible from the point of view of its

[5] *Scott's Last Expedition: op. cit.*

intrinsic importance; it may be some trifling idiosyncrasy of appearance or of behavior of no practical importance for the ordinary tasks that do not involve personal relations. Even a trivial quality may attract the attention of one's comrades, mark the individual as different from his neighbors and subject him to an unfavorable critical judgment, to ridicule or taunts. This attitude of the group is deeply rooted in the archaic stratum of human nature. The modern child who deviates from the physical norm sufficiently to attract the attention of his comrades, inherits some of the odium which in more remote times bore with it still heavier penalties than good-humored banter, occasional ridicule or spiteful taunts.

The critical judgment of his fellows has its representation in the personality of the individual; external criticism, withdrawal of friendship and love, cause a lessened self-love or *amour propre,* a feeling of inferiority. The resources of the personality are called on to neutralize this disturbing feeling, which may thus become a stimulus to the ambition and the aggressiveness of the individual.

The sensitiveness to the opinion of others, which may result in a feeling of inferiority, shows great individual variability. Byron was an example of great sensitiveness: "When as a young boy he heard Mary Chaworth say to her maid, 'Do you think I could care anything for that lame boy?' the words were like a stab in his heart. He plunged out of doors into the dark night without knowing what he was doing and ran without stopping all the way to Newstead." The wound to his self-love caused by his physical defect was all the more keenly felt as it

was his mother who expressed most clearly the critical attitude: "My poor mother and after her my schoolfellows by their taunts led me to consider my lameness as the greatest misfortune, and I have never been able to conquer this feeling."

The feeling of inferiority may be based not on any intrinsic personal handicap, but on some factor extrinsic to the individual on which the opinion of others lays weight. As primitive man is afraid of and liable to eliminate the abnormal individual, so primitive man is hostile to the stranger. The primitive tendency persists in modern culture, and there is a certain antagonism to those who do not belong to our tribe; we are somewhat distrustful of and hostile to those who differ from us in their national, racial, religious, political, economic or social affiliations. In childhood this tribal judgment may weigh heavily on the individual and give an enduring stamp to the personality. In later years the individual may become emancipated from all such prejudices, he may be a welcome member in all groups, yet his personality may bear the distinct imprint of the period when in face of a feeling of inferiority based upon various extrinsic considerations, he had to mobilize all the resources of his personality.

In some cases the early handicap may modify the emotional life of the individual without eliciting any compensatory reaction; thus the social ostracism associated with a broken home in childhood may explain the sensitive and suspicious reaction of a man whose career has been successful and who is surrounded with a circle of warm friends. The lack of recognition by or of affection

from our fellows may lead to various secondary traits of character; one man may make no endeavor to win the affection of his fellows in the world of actuality, but may derive from the world of phantasy all the recognition and esteem that he craves, another may in the real world woo the esteem and affection of his fellows by particularly friendly, compliant, even ingratiating behavior, a third may try to demonstrate to himself and to others how little he needs or values the good will of others by a rather harsh and offensive exterior or behavior. The craving for recognition by one's fellows may outweigh the desire for their good will or their approbation. A crippled lad suffered from his physical inferiority and lack of romantic experience; he compensated for the latter by phantasies about moving-picture actresses to whom he sent proposals of marriage, he attained a feeling of personal importance and of social recognition by a flagrant delinquency which was bound to procure notoriety.

The combination of a thirst for prestige and power with serious personal handicaps may bring about startling results when the individual takes part in public affairs and when unchained forces are available for manipulation. In the careers of Michel Karolyi of Hungary and of Robespierre we see dramatic examples of such a combination on the stage of history.

The Tharaud brothers [6] present the career of Karolyi as being to a large extent determined by certain congenital physical defects. They quote him as saying, "From

[6] Tharaud, Jérome et Jean: *Quand Israël Est Roi.* Paris, Plon-Nourit et C^ie^, 1921.

my childhood, my most eager desire has been to make a revolution," and they characterize this attitude as the "nightmare of a sick child who quickly has a horror of the world and only feels hate and disgust for everything which is normal and too healthily constituted." As a young man, Karolyi tried to compensate for his congenital handicaps by a passion for violent sports, in politics he attempted to attain the same goal by the singularity of his views and by ostentatiously opposing the commonly accepted opinions of his group, supporting universal suffrage and speaking in favor of an agrarian reform which would have shared large estates among the peasants. The same personal factors to a large extent could be made to account for his foreign policy.

As the constitutional handicaps and exaggerated compensations of Karolyi played a rôle at a critical period in Hungarian history, so in the turmoil of the French Revolution the factors which entered into the personality of Robespierre found an astounding opportunity for expression. If he had not the physical handicaps of Karolyi, Robespierre had the handicap of difficult family circumstances and perhaps an innate lack of kindly feeling for his fellows. The inner urge for power and prestige seems to have dominated him from his early days, and he bitterly resented the obstacles which stood in the way of their attainment. An orphan, deserted with the other children by an eccentric father, he was brought up on the charity of relatives and adapted himself poorly to his schoolmates. He was disliked by them for his detestable character and his extraordinary vanity; his solitary habits

served as a means of escaping from the rebuffs of his fellows. His mediocre professional success, his lack of social accomplishments, his great ambition and self-confidence combined to make him seek political distinction; from the time of his first appearance as a representative of the people at Versailles he showed a persistent utilization of every opportunity to assert himself. In the ferocious denunciation and ruthless extermination of his opponents one sees the expression of the accumulated hate and resentment born of the harsh experience of his early years.

Arthur Schopenhauer was perhaps no whit behind Robespierre in his inordinate ambition; intellectual prestige not temporal power was his goal. He too found obstacles in the way of attaining prestige and intellectual domination, but violent diatribes replaced the guillotine as a means of expressing his hate and scorn. Unsuccessful in his social intercourse with the young ladies, who giggled at him in the drawing-room notwithstanding the reproof of Goethe, his love-life limited to unsatisfactory and fleeting amours, Schopenhauer compensated for his feeling of inferiority in this respect by decrying the value of woman. According to him woman is destined solely for childbirth. There is a sudden burst of charms in the interest of the species but otherwise she is a perpetual child needing guidance and guardianship, only ruled by fear. She has no morality, she has a great weakness for compassion. She is essentially unjust and considers that love emancipates from all moral obligations. Even as to the so-called beauty of women, their charms are an illu-

sion due to the spell of a physiological attraction which intelligence cannot overcome.[7]

The sex urge which so disturbed Arthur Schopenhauer and which exerted such an important influence on his philosophical constructions is of no less importance in the lives of those of little philosophical distinction. It is one of the most important component forces in the dynamic equilibrium of the personality, it molds the traits of the personality, it determines the direction of the individual's activities. The importance of this factor in the equilibrium of the personality is due to the strength of the underlying biological urge, so essential in the interest of the race, and the severity of the cultural restrictions or social taboos. Through all stages and varieties of human culture this biological force finds itself restricted by social regulations; in some cultures no outlet is allowed for this instinct save with a social sanction. Even where childish indulgence is free from social regulation, the youth and adult find themselves bound by rigid requirements; some social sanction such as marriage is officially required. This sanction is granted only under definite conditions; in many cultures exogamy is the rule; in England until recently marriage with a deceased wife's sister was taboo. More familiar is the taboo on marriage within the family, to parent or sibling. In some cultures not only sex relations but any personal contact between certain relatives is tabooed; in some racial groups the boy at a certain age dare not approach his sister, in many

[7] Wallace, W.: *Life of Arthur Schopenhauer.* London, Walter Scott, 1890.

cultures the individual may not look upon his mother-in-law.

The individual is drenched from birth in the cultural values of his community and of his family circle so that at an early age objects and activities have to be considered in their cultural as well as in their biological significance. From the earliest age the child finds a special value attached to any factor associated with sex. His activities and play, if they are considered to have a sexual quality, are apt to be condemned by the parents with a resultant feeling of guilt and inferiority on the part of the child; even curiosity as to the topic may be condemned, phantasies may be judged almost as unworthy as overt activity. In individual cases and in special groups the child may be protected to a certain extent and for a time from the full pressure of the social taboo. In general the cultural taboo on sex prevents us from doing justice to the importance of the factor of sex in the development of the human personality.

Renan [8] expresses surprise that love, which is the "mysterious thing" of all others, the most extraordinary and suggestive fact of the universe, "instead of being made by science and philosophy the principal subject of their observation and speculation, has been either passed over in silence through prudery, or disposed of by a few silly platitudes." Schopenhauer in his chapter on the metaphysics of sexual love does full justice to this topic; the blind will or cosmic force which pulses through the universe is merely the sexual urge of man writ large.

[8] Quoted by W. Wallace: *op. cit.*

Schopenhauer considers that sex "is really the unseen center of all conduct and action, and notwithstanding all the veils thrown over it, it peeps out everywhere, it is the cause of war and the aim of peace, the basis of what is serious and the aim of jest, the inexhaustible source of wit, the key to all allusions and the meaning of all silent nods, of all unspoken commissions, of all stolen glances, the daily thought and endeavor of the young and also of the old, the hourly thought of the unchaste and the continual involuntary recurring revery of the chaste, the stuff that is always ready for jest even because the deepest earnest lies at the basis of it. . . . The sexual instinct is the nucleus of the will to live, the concentration of all will."

The part played by the sexual instinct and its varied components in the total personality shows great individual variety. In some pleasure-loving individuals sexual gratification is overtly accepted as a most important directing force, and there may be little effort to weave this element into a pattern of social or spiritual value. The individual may accept all the benefits of a cultural environment without feeling any of its responsibilities and without feeling any desire to safeguard the amenities of culture by restriction of personal indulgence. In the majority the response to the code of the group involves the control of the sex appetite over prolonged periods. In many cases this conflict between crude desire and social response is frankly faced, and dealt with as best the individual can, if with varying fortune. In other cases the crude desire, stamped as unworthy by early training,

liable if recognized to be a source of mental discomfort, is ignored and excluded from conscious recognition. Dynamic factors of such importance are not easily excluded from consciousness; defenses have to be erected against them, energy is expended in keeping them out of consciousness, the official personality can go on with its conscious tasks only after allotting a sufficient police force to defend it against the emotional pressure from the repressed factors. These exiled shades flitting about in the hinterland of the mind are, as has been already stated, by no means without vitality, they constantly exert an influence on the conscious purposes, emotions, thoughts, behavior of the individual; [9] at times they may even drink blood, break through the repressing forces and take command of the situation.

To understand the situation one must do justice to the complexity of the sex life and realize how many pleasure-seeking tendencies get entangled with the biological urge to reproduce. Among these dynamic factors one must not neglect those already referred to in a previous chapter, the satisfaction derived by the infant and the child from sucking, from toilet operations, from bodily manipulations including masturbation, from peeking and exhibiting, from various bodily explorations, from adventures with others, from affectionate personal relations with parents, siblings, playmates of the same and of the opposite sex. By the time that the individual has attained maturity these pleasure-giving tendencies are in general

[9] Freud, S.: *Hemmung, Symptom und Angst.* Leipzig, Internationaler Psychoanalytischer Verlag, 1926.

subordinated to the dominant requirements of the reproductive function and to the special restrictions imposed by the cultural environment; they may completely fade away or if persistent they may be woven harmoniously into the texture of the adult sex life. In particular cases these factors do not fade away, they make insistent claims for satisfaction, they are difficult to assimilate; their actual indulgence may be comparatively rare in view of the severe social taboo on homosexual and other aberrant sexual activity, but their disturbing presence is of very wide occurrence. The feeling of inferiority which, owing to early training, may be associated with the intrusion into consciousness even of the normal sex urge, is still more liable to develop in the presence of the familiar so-called perverse tendencies. The condemnation of these tendencies by the cultural environment is reflected in the personality of the individual by a feeling of guilt and inferiority.

The manner in which individuals deal with the complex components of their sex life in order to attain personal and social equilibrium is infinitely varied. Where the sex urge finds no direct outlet owing to the response of the individual to cultural values and restrictions, the individual may mobilize his energy for a program of outdoor activities, of artistic achievement, of scholarly pursuits, of social activity, of religious or philosophical contemplation. The more congenial the chosen occupation the more secure is the individual from the eruption of the suppressed forces. On the other hand, the worker engaged in an uninteresting repetitive task indulges in phantasies

in which the sex motif as well as resentment against working conditions is apt to play a large rôle. Erotic phantasies may in some cases give a useful outlet to the sexual urge; in other cases the phantasies and associated behavior become incompatible with normal social life, the bounds of sanity are overstepped.

The sexual urge has to be woven into the full social life of the adult who sooner or later chooses a mate, establishes a home, raises a family. This program is a searching test of the capacity of the individual to integrate crude organic impulse, egoistic self-expression, social response into a stable system of forces. Few decisions in the course of the adult career are of greater importance for the evolution of the personality than the decision to marry, a decision often made in an impulsive way or on a quite inadequate basis. The decision may be arrived at through blind instinct, a blend of instinct and romance, a desire for economic and social security, for power or prestige, to avoid invidious comparison with others. Some marry with missionary intent; others have marriage thrust upon them by aggressive suitors.

The new relationship means biologically a certain surrender of individuality for racial purposes; at a lower level in the animal kingdom reproduction may involve the complete surrender of the individual. Some individuals do not accept the full biological significance of marriage, the integration of individual, social and racial factors. They look upon the social institution of marriage as merely the framework for their own egoistic

purposes, and may even overlook the individual needs of their partner. The biological sexual urge they may look on merely as the source of an individual pleasure, while rejecting the responsibilities that go with its natural expression. Where the normal biological process is modified and contraceptive measures taken, whether for selfish aims or in the interest of the offspring, the disturbance of the fundamental process may lead to insidious changes in mood and outlook, the source of which may not be recognized by either partner. Quite apart from any such deliberate regulation of marital relations, the instinctive needs of the two partners may be incompatible. Those who marry at a high ideal plane may find that difficulties at the instinctive level wreck the situation; those who have married at the instinctive and romantic level may soon find that life in common brings little of value to either partner. The danger of shipwreck in marriage is frequently increased by subconscious residuals from earlier periods which are carried over into the new situation. Among these residuals may be an interest in infantile and childish sources of pleasure, feelings of fear, guilt or aversion due to early experience, an undue bond of affection with the parent, the remains of disturbing attachments and friendships. The special medical literature dealing with nervous and mental disorders abounds in reports of cases where perplexing marriages become intelligible when these underlying residuals are revealed. The marriage of January and May frequently excites comment; in the analysis of such a situation the fascination exerted by the image of the father is fre-

quently shown to be the dominating influence.[10] In the mating of the refined clinging vine with the alcoholic caveman one sees a curious play of crude organic urges and of compensatory reactions.[11]

The harmonizing of egoistic and of social claims is one of the fundamental tasks of the personality, a task which at first takes the form of adaptation to the family, the unit upon which our present culture is built, a social group united by bonds of common interest and special affection. The mutual affection is, however, associated with inevitable conflict, latent if not overt. The family while a source of satisfaction and security also cramps and restricts the individual. Even under moderate restriction the individual may unconsciously harbor a feeling of protest or resentment; in some cases self-assertion cannot brook restriction, the child may leave the home or live within it as an alien individual.

The attitude of the parent to the child is a blend of conflicting elements, conscious and unconscious. The father while affectionate and consciously admitting the individuality of the child may see in the child a chance to live his own life again, and to this end may direct the education and the career of the child. The father may feel that the child disturbs his previous monopoly of the love of the mother, he may consciously or unconsciously reproach his wife with the diversion of her love from him

[10] Jung, C. G.: *Collected Papers on Analytical Psychology.* Second Edition. Chapter III, "The Significance of the Father in the Destiny of the Individual." London, Baillière, Tindall and Cox, 1920.

[11] Kant, Otto: "Zür Psychobiologie der Trinkerehe." *Zeitschr. für die ges. Neurologie und Psychiatrie.* Bd. 106, S. 401.

to the children. This reproach from a possessive and egoistic husband may be valid, for these qualities may kill romance and lead the wife to welcome the child as a substitute for a husband who has ceased to be a lover, and has become a partner or owner. This compensatory outlet for the unsatisfied love of the wife may bind the children to the mother with a bond that cramps their development.

The father may consciously or unconsciously find his son a rival not only in love, but in power and prestige. He may therefore resent the independence of the child; James Mill could not tolerate with equanimity the untrammeled and independent expression of the views of his son John Stuart Mill even after the latter had attained full maturity. This resentment of the independence of the child is most marked in relation to those topics of emotional value which play an important rôle in the solidarity of family and clan, namely religion, politics, social and ethical views. The attitude of the father to the daughter is also complex and with subconscious components; thus he tends to look on the suitors of his daughters with undue depreciation, and beneath surface cordiality toward them there lurks secret hostility.

The father may deal in various ways with the challenge of the child to his individual power, prestige and monopoly of love; the situation may be frankly faced and in the personality a fair compromise may be established between this factor and other dynamic elements, or this factor may not be recognized but repressed with all other

disagreeable or unworthy trends. The repressed factor will however exert its influence on the personality and on conduct, while its manifestation may be given a semblance of reason by the conscious personality, the parent believing that it is primarily in the interest of the child that he has directed the child's career, molded his code, thwarted his romance.

In the personality of the mother the same elements play an important rôle, the power motif not so dominant, the love motif more in the foreground. There is the same combination of devotion to and rivalry with the child, partly recognized, partly repressed; there is the same conflict between the egoistic tendency to exploit the child and the social response to the needs and rights of the individual child. The mother may find in the child an outlet for unsatisfied love, the child may be her "little sweetheart"; in response to her own needs she may secretly applaud and encourage the child's protest against going to school, may in her routine care foster the infantile and childish attitude of dependence. The matron not indifferent to her own influence and charms may consciously or unconsciously be somewhat perturbed by the oncoming maturity of her daughter; she may accentuate her daughter's immaturity by dress or prescribed conduct, or may herself take the appropriate steps to maintain the illusion of youth.

The play of inter-personal forces within the family as they affect the developing child, and the reaction of the child to the father, have already been touched on in the third chapter, and illustrated by a reference to the child-

hood of Edmund Gosse.[12] The child while bound by affection to the father, admiring his Godlike omniscience and automatically imitating this wonderful being, still finds him a restricting influence on his own egoistic claims. Beneath the affection and admiration of the child with their complex organic and subconscious components lurk antagonistic forces of equal complexity.

In some cases the antagonistic forces come to overt expression. Bismarck from early boyhood was estranged from his mother and looked on her as an adversary: "In hundreds of conversations he never had a good word to say for his mother," . . . "He used 'extremely bitter' language about her," and even into his "old age he would describe her as a blue-stocking who had had no interest in his education." [13] The political conservatism of Bismarck may perhaps in part be explained by his bitter antagonism to his mother, a strong supporter of liberal ideals derived from her father.[14]

The critical attitude of Schopenhauer toward woman in general was to a large extent the expression of his bitterness toward his own mother. She had been lacking in affection, scolded him as a boy for being bombastic and lacking affability, in her freedom as a widow she found him "unbearable and burdensome." Hence he rails at the extravagance and the vanity of women, and in the later years of his life "could not, God forgive him, keep from laughing" at the following description of his mother in

[12] Gosse, Edmund: *op. cit.*

[13] Ludwig, Emil: *op. cit.*

[14] *Vid.* Lomer, George: *Bismarck im Lichte der Naturwissenschaft.* Halle a. S., Carl Marhold, 1907.

Feuerbach's *Memoirs:* "Madame Schopenhauer, a rich widow. Makes profession of erudition. Authoress. Prattles much and well, intelligently; without heart and soul. Self-complacent, eager after approbation, and constantly smiling to herself. God preserve us from women whose mind has shot up into mere intellect." [15]

Examples of overt hostility between father and son are still more common than examples of antagonism between mother and son. The *Way of All Flesh* [16] with its indictment of the father by the son is a painful book to read. Samuel Butler was quite explicit in his statement to his biographer of his attitude toward his father: "He never liked me, nor I him; from my earliest recollection I can call to mind no time when I did not fear him and dislike him . . . the fact remains that for years and years I have never passed a day without thinking of him many times over as the man who was sure to be against me, and who would see the bad side rather than the good of everything I said and did. . . . There can be no real peace and contentment for me until either he or I are where the wicked cease from troubling. An unkind fate never threw two men together who were more naturally uncongenial than my father and myself." [17]

A similar antagonism to the father was shown by that literary genius Henri Beyle (Stendhal) who was passionately devoted to his mother, who died when the

[15] Quoted in Wallace, W.: *op. cit.*

[16] Butler, Samuel: *The Way of All Flesh.* New York, Boni and Liveright, Inc., 1903.

[17] Jones, Henry Festing: *Samuel Butler.* London, Macmillan and Company, 1919.

boy was seven years of age; of his father he says, "he never loved me as an individual, merely as his son who would one day carry on the family." He attributed many of the difficulties of his early life to the malign influence of his father: his father and a certain Abbé "poisoned my boyhood; the word poison is to be taken quite literally." It was with jubilation that Beyle later learned that his mother had never loved his father. In his letters he frequently refers to his father as "the bastard."

Between siblings there is the same play of affection and rivalry, as between child and parents; the older child resents the arrival of the new baby, may even request that it be taken back or thrown out of the window. The younger child may resent the privileges allowed the older child, whose discarded clothes incidentally it may have to wear. They are rivals for the affection of the parents, and beneath their mutual affection and loyalty this rivalry persists and exerts its influence.

The only child as previously noted has not the same early training in social adaptation as the child in a numerous family. He has more opportunity to dominate, is more exposed to over-valuation on the part of the parents, weaves this personal over-valuation into his own scheme of values. He may as an adult retain this attitude bred within the domestic circle and unconsciously make the same demands on the broader stage of life, which he has made within the limits of the family. As he does not receive from society at large the indulgent affection which he had received from his parents he may see jealousy or antagonism where none exists; on the

other hand, the disillusionment may lead to a wholesome if belated recognition of his own place in the social scheme.

These conflicting trends within the family circle may be organized so that group life is harmonious and the individual personality well balanced, yet even with harmonious family life and a well-balanced personality these unacceptable trends may give subtle indications of their presence. The girl, who on three successive evenings has a terrifying dream that her little sister is drowning, in the daytime is conscious of nothing but affection for her sister. A frank review of her attitude brings clearly into consciousness the fact that the existence of the little sister is an obstacle to the satisfaction of her own desires. The frequent dreams of disaster to members of the family circle are told with equanimity and produced as evidence of deep concern over the welfare of the member concerned. The fascination of the thought of the elimination of an individual may obviously bear another interpretation, and the dream may be found to express a tendency which is not allowed to thrust its head above the threshold of consciousness in the daytime. Even in the daytime these repressed tendencies may indicate their presence but in disguised form. The extreme over-solicitude of a son for the health of his father may be a defense against the fascinating but disloyal thought of what fortune and freedom will mean for him. The over-solicitude of a mother for her child may be her compensation for efforts to eliminate the unwanted child before birth. The distress of a mother over absurd impulses to harm her

adored child, in view of which she eliminates all sharp instruments from the room, is not without its adequate cause, for beneath the conscious devotion to the child are feelings of antagonism which she finds it difficult to face.

The actual forces involved in the inter-personal relations of the members of a family circle are obviously more complex than those traditionally and officially emphasized. Beneath the level of consciousness in the individual personality of each member is a complicated interplay of forces, which have to be reckoned with even in the normal and well-integrated individual, and which in those less well-integrated or under special stress may break through in dramatic form. The study of these failures of adaptation has thrown a flood of light on the complex factors involved in family relationships. Adaptation to the family group is only the preparation for the wider task of establishing sound relations with one's fellows in general, and with certain groups of special importance. In the establishment of such relations the individual is doing justice not only to a necessity imposed from without but also to an essential need of his own nature. Galton [18] fifty years ago called attention to the behavior of the South African ox, a gregarious animal; when separated from its fellows it is uneasy and restless, and seizes the first opportunity to plunge back into the midst of the herd. In man, too, there is need of association with one's fellows, and lack of social contacts is a serious deprivation. The individual responds

[18] Galton, Francis: *Inquiries into Human Faculty and Its Development.* London, Macmillan and Company, 1883.

to this need by gravitating toward the group, especially to one of the sub-groups into which the larger community is divided and with which he feels more comfortable and at his ease. People go to social functions where they are likely to meet their own group or set, regardless of the special appeal of the activity. Men gravitate together according to their racial and religious affiliations, their professional or business activities, their hobbies, their economic or their social status. The least socially inclined individual may feel most comfortable in his club although he may seldom exchange a word with a fellow member; he is at least with his kind. On the other hand, an individual may be extremely uncomfortable because circumstances have forced him temporarily to associate with people "not the kind that one meets."

Solitary pursuits are rare in comparison with activities involving the participation of others; life is from start to finish a coöperative enterprise. The capacity for adaptation to others, already tested in the family, finds continued exercise in the schoolroom, the workshop, the factory, the office, the profession, in community activities, religious observances, social recreations. The pupil in the schoolroom has not only to acquire information, to develop skill, to exercise thought and judgment, he has to adapt himself to the social order of the schoolroom, to the authority of the master, to his fellows both senior and junior. In this process of adaptation the various tendencies gradually take their special place in the individual personality, and the resultant system of forces is compounded not only of conflicting egoistic tendencies

but of social tendencies, the response to the attitude of others, the striving for appreciation and affection. In the schoolroom and in the playground the personality gradually establishes its own special balance between individualistic claims and social response. In the factory likewise in addition to his technical efficiency the value of the worker depends upon his social adaptability, upon the ease with which he falls in with the habits and code of his fellow workers, while making his own individual contribution, upon the affection which he elicits. The difficulty of adaptation to the group may be due to one or more special features in the personality, to a lack of personal response to the needs and views of others, to a primary urge to self-assertion, to a fundamentally irritable or suspicious or dissatisfied temperament; the difficulty may be of more complex origin, may have its roots in underlying instinctive tension, in residuals from past grievances. Thus the worker, conditioned by earlier experiences, or obscurely dissatisfied with his own past or present management of sexual impulses, may vent his dissatisfaction on his fellows, compensate for his obscure feeling of inferiority by an annoying self-assertiveness, explain his trouble by accusing his fellows of hostility or suspicion.

Lack of conformity with the views and code of the group may make the individual a somewhat discordant element; on the other hand, subservience to the group atmosphere may prevent the individual from making his special contribution to the group life. Teamwork and co-operation are essential for efficient group life, but life

should be progressive not static, initiative and emancipation from tradition are required. The community needs leaders and the leader does not merely accept the existing equilibrium, but employs his imagination and energy to change the existing order even though he suffer loss of affection and prestige. In thus contributing to the values of the community at the apparent cost of personal recognition, egoistic tendencies may play an unrecognized rôle; the social activity of the individual, which may disturb at least temporarily his adaptation to his fellows, may resolve inner conflicts, relieve inner tension, satisfy cravings for power and self-expression.

It is impossible to distinguish in the case of the social reformer between the satisfaction derived from the sense of individual power and the satisfaction due to the expression of his social interests. To the cynic the enthusiasm of the reformer appears to be a means of individual self-glorification; to the unsophisticated the zeal of the reformer appears to be inspired by whole-hearted devotion to the social weal.

In the personal and social equilibrium of the individual the energy devoted to work, to hobbies and to recreation and the satisfaction derived from various skills and abilities are important components, as well as the energy and satisfaction involved in personal relations. The special occupation of each individual gives a greater or lesser outlet for his energy, brings in more or less satisfaction either on account of the intrinsic interest of the task or on account of the associated gain of money, power, prestige. In the striving of the individual for personal equi-

librium the satisfaction derived from the occupation may go far to compensate for difficulties and lack of satisfaction in other directions. The whole life of an individual may be oriented round his occupation, which may give him opportunity for the fullest self-expression. It is important for the optimum balance of the individual that the task should have some relation to the technical endowment of the individual. As a matter of fact in the modern industrialized community the occupation is apt to be entered on in a haphazard way, and dealt with by the crude and uneconomical method of trial and error; vocational selection by means of the careful analysis of individual and of job plays a disappointingly small rôle in the industrial distribution of the members of a community. It thus happens that individuals may find in their actual occupation no scope for their natural endowment, may be deprived of satisfactions for which they are equipped. They may have been sidetracked into an unsuitable occupation by such factors as local opportunity, financial inducement, family pressure. Some occupations offer no opportunity for the gratification of the complex cravings of human nature, and merely serve the purpose of maintenance; life begins for the individual when work finishes, during the work memory or phantasy must supply the satisfaction which reality fails to yield. The daydreams of the worker at a repetitive task may be along wholesome lines if the worker has suitable material from family life, social recreations, general reading, religious background. In the absence of such material the ruminations may take a less satisfactory direction, there may be unwholesome reveries

of erotic nature, or as Elton Mayo [19] has emphasized, depressive ruminations with mounting resentment against social and industrial conditions. The result of such reveries continued over a long time may be the personal loss of mental balance and serious social and industrial disturbances. That individual is fortunate whose occupation not only ensures self-support and social recognition, but also gives full play to his many-sided nature with its special interests and abilities

In addition to the close personal contacts of the home and the broader if less intimate contacts of school and occupation, there are other social contacts established by the varied interests of the individual. The individual may form part of a group interested in recreational, intellectual or artistic activity; he may be a member of a neighborhood group interested in all the cultural activities of a definite district; he may take part in the activities of a group, regional, national or international, interested in health, natural science, cultural values, human relations; he may be a member of some religious body, whose doctrines may be a more or less important element in his total outlook and whose observances may play a greater or lesser part in his general program. In each such group the individual finds not only a particular occasion for the expression of his general social need, but also an opportunity for the exercise of his special endowments and the satisfaction of his special tastes. The output of energy in the setting of each group and the satis-

[19] Mayo, Elton: "Revery and Industrial Fatigue." *Personnel Journal,* Vol. III, No. 8, December, 1924.

faction derived from association with each group play a rôle in the dynamic equilibrium of the personality, which varies according to the needs of the individual. To the individual in need of self-confidence and reassurance or craving social recognition the membership in a group, the good will of his fellow members, the prestige of being a committeeman or officeholder, with or without high-sounding titles, the increased feeling of value associated with special garb or other symbols may have great practical value. While one person may derive comfort and reassurance as a passive member of the group, another may utilize the group as a medium of self-expression and domination.

Social tendencies are as much a part of the fiber of the individual personality as the simpler appetites, the egoistic tendencies, the reproductive urge. The individual as a closed system is a mere abstraction, does not exist in reality; the forces of the cultural environment impinge on, enter into, are inextricably interwoven with the texture of the individual personality. The personality has the task not only of maintaining itself, of establishing a personal dynamic equilibrium, of handing on the torch to another generation, it has also the task of taking its orderly place in the social community, of making its individual contribution to the group, while at the same time deriving support from the group. The relations with the group are of great variety and complexity and it has been possible in this chapter to indicate only a few of the outstanding factors.

CHAPTER VI

THE PERSONALITY AND THE TOTAL SITUATION

THE old Latin proverb said *quot homines, tot sententiæ;* "as many men, so many opinions." It is, however, not only in their opinions that men differ. They differ in their ouput of energy, in their feelings, in their medium of self-expression, in their judgments of value. No two men deal with their diverse inner needs and with the complex demands of their environment in exactly the same way.

So far in the preceding chapters we have discussed briefly the equipment of man for dealing with his tasks and have surveyed some of the tasks with which he is confronted. In this chapter we shall consider some of the ways in which the individual attempts to do justice to the needs of his own complex nature and to play his rôle in the endless drama of the universe. We shall sample the diversity of human destiny and consider a few examples of the human personality grappling with the total situation.

In this discussion of the human personality the term self-expression will frequently be used. It is difficult to see how we can do justice to the fulness of human experience without placing the concept of self-expression in

the center of the picture. One may discard this aspect of human nature for purposes of physico-chemical, physiological, psychological analysis, and may provisionally discuss the organism as a reactive mechanism, but in the final synthesis the stress of the presentation must be laid on the self-determining quality of the organism.

The physicist [1] shows how the progress of analytic thought has led the investigator from the concept of the universe as a vast impersonal process, in which life and personality seem, as alien elements, to play a transitory and negligible rôle, to a concept of the universe as a world of diverse waves, and finally to a concept of the universe as something, the very essence of which is a series of mathematical relations: "the universe begins to look more like a great thought than like a great machine."

In such a presentation we may have an uneasy suspicion that mathematical formulæ have taken the place of the dancers in that "ghostly ballet of bloodless categories," into which Hegel was accused of resolving the familiar world of our daily experience. If, however, we restore to the concept of thought the qualities of striving and feeling, which are inextricably associated with any thought of which we are personally aware in our individual experience, then perhaps the quotation from Jeans does justice both to the immediate facts of individual experience and to the universe of which it forms a part. We seem thus to arrive by a different route at the topic

[1] *Vid.* Jeans, Sir James: *The Mysterious Universe.* London, Cambridge University Press, 1930.

of the first chapter, the kinship of the personality with the physical environment.

The clinician should, perhaps, apologize for venturing into such a discussion; he is entitled, however, to emphasize the facts of his experience, among which that of self-expression or self-assertion seems to be one of the most important. It is a mystery how the small group of forces represented by the gametic material of the fertilized ovum, while dependent on the environment for matter and energy, can maintain its identity and a certain independence, can include in symbolic form the structure of the universe, can direct its own evolution, and make an individual contribution to the universe from which it derives its sustenance. This is no doubt a mystery; but our whole life is surrounded by mysteries. It may be impossible to fit the fact of self-determination into a unitary system, but the fact may be more important than the system. We expect the shoemaker to fit the shoe to our foot and not to pare down our foot to suit his last; we may make the same demand on anyone who offers to fit us with a philosophical system, and protest against his doing violence to human nature in the process.

The mention of the shoemaker reminds us of the classical admonition that he should stick to his last, and recalls us to our discussion of the way in which man deals with the total situation presented by his inner needs and his outer circumstances. In Middletown,[2] a representative American city, the average citizen keeps alive, works,

[2] Lynd, Robert S. and Lynd, Helen Merrell: *Middletown.* A Study in Contemporary American Culture. New York, Harcourt, Brace and Company, 1929.

supports a home, spends his leisure time in various ways. Apparently the average individual works hard. While the Indian or Chinese peasant may work hard in order to keep body and soul together, in Middletown the individual works very much harder than is necessary for this purpose. It is not always for the joy in work; in many cases the work has no intrinsic interest for the individual. How far these workers have an explicit goal is uncertain. One man says: "They are just working. They don't know what for." In addition to the necessity of maintenance in Middletown, there are various modes of satisfaction which are only attainable by money. Recreations and comforts make a definite appeal and are widely sought after, and in addition there is the prestige which goes with the acquisition of certain material comforts. "Both business men and working men seem to be running for dear life in this business of making the money they earn keep pace with the even more rapid growth of their subjective wants." [3]

If one go beyond these external activities directed toward obvious satisfactions and try to estimate the range of interest of the individual and the degree to which he reaches out for an understanding of the universe in which he lives, we have few data on which to form an opinion. A great deal of emphasis is laid on education by the citizens of Middletown; but the question may arise whether education is not regarded merely as a condition for increasing the technical efficiency of the individual. It opens up wider occupational opportunities, it promises better

[3] *Op. cit.*

financial returns, it raises social status. Emphasis on education need not signify intellectual curiosity on the part of the individual nor the desire that the younger generation should have the fullest opportunity to satisfy their intellectual curiosity. Education in Middletown tends to be essentially vocational and practical. The degree to which the individual satisfies any general curiosity in his leisure time and the limits of his intellectual horizon are unknown. Reading and the moving pictures to a large extent are utilized for their immediate satisfaction or their thrilling quality, lectures dealing with broad cultural topics are apparently somewhat out of date. With regard to the system of spiritual values which some see in the universe, the attitude of the citizens of Middletown varies. Some have little spontaneous curiosity or interest, but accept without question the conventional formulation of a religious group; in others there may be some questioning. Some seem to get along without any very definite system as the background of their lives, and with no attempt to construct their own scheme to satisfy their individual needs. To one working-class wife there seemed to be little need for groping or doubt: "We don't need religious education in our church. In our church a little child only so high can tell right off the bat who God is and what He does and all about Him." Some of the mothers in Middletown question and wonder about the background of the individual life, but in the difficulty of finding a solution they try to brush the topic aside; "There are just a lot of things you have to try not to let yourself think about." Some get steady comfort from

their religious beliefs. Others only utilize their religious beliefs occasionally, as when in trouble: "I hardly ever think of Heaven like I used to—only when a relative or friend dies." So in Elizabethan times in Merrie England God was reserved for emergencies. The hostess gives us a vivid picture of Falstaff on his deathbed, babbling of green fields: "'How now, Sir John,' quoth I: 'what, man! be o' good cheer.' So a' cried out, 'God, God, God!' three or four times. Now I, to comfort him, bid him a' should not think of God; I hoped there was no need to trouble himself with any such thoughts yet."

The data from Middletown suggest that in many a modern community the individual citizen may have a very narrow cultural outlook. His interests may be limited to his personal comfort and security, the welfare of his family, the maintenance of his occupational or class privileges and social traditions. He may have little interest in the laws of nature, the structure of the universe, the products of art, the origin and validity of his code of values. He may have no great internal tension or need of self-expression or reservoir of energy for which he has to find a special outlet; the standard outlets may be quite adequate, the program of his life may be regulated in detail by external influences, social, educational, economic, which determine the grooves along which his life proceeds without undue external friction or inward questioning. Food, clothing and shelter insure comfort, the daily occupation gives an adequate outlet for the energy and the limited interests of the individual, family and social contacts satisfy the craving for human fellowship.

It is possible that such a presentation as the above fails to do justice to the total personality of even the humblest citizen. There are few individuals whose interests are so limited, whose response to general cultural influences is so weak, whose inner needs are so simple that they do not occasionally reach out beyond their immediate place and time and picture their life on a broader background. Their philosophy of life may not be consciously formulated, the goals toward which they strive may be only vaguely grasped, but they are conscious of self-direction, respond to the concept of value and strive to give expression to obscure forces within them.

In this final chapter we may discuss certain ways in which the human personality strives for self-expression and grapples with the universe, and shall take for illustration the personality of a few outstanding men.

It will not be possible in the individual case to give a detailed review of the various forces which enter into the personality, of their conflicts, their hierarchical organization, their repression, disguised expression, compensatory reactions. In each of these individuals self-preservation, pleasure-seeking tendencies, sexual components, egoistic and altruistic tendencies, special endowments and tendencies to self-expression, variations in sensory, intellectual, and motor endowment, external cultural influences, conditions of physical health, play their respective rôles. Emphasis will be laid on only a few of the outstanding factors which determine the individual destiny. Among these factors one may mention, as giving a particular stamp to the individual life, (1) the degree and

the direction of the urge for self-expression; (2) the range and intensity of curiosity and interest; (3) the importance of the rôle of feeling; (4) the sensitiveness to the concept of value; (5) the prominence of a specialized endowment for self-expression, as in the case of the artist. It is obvious that each of these topics could stand definition and discussion, and that the discussion of any one would involve discussion of the others, as each merely represents one aspect of the total personality. The persons chosen for discussion belong to different groups; some belong to the group of those who create artistic values, some represent the disinterested investigators of the laws of nature, some find the deepest truth in experience of intense feeling, some have a dominant urge toward social reform, in others the energies are integrated into the intellectual elaboration of a systematic view of the universe.

There are different ways of grasping and dealing with the universe, there are different media through which it may be seen; to the individual the environment may appear bathed in the special spectral colors of the artist, the scientist or the moralist, to none is it granted to deal with the universe in the clear white light of the absolute.

To the matter-of-fact individual, to the practical man, dominated by the concept of efficiency, who deals in material production, in the collection of facts, in the discovery of general laws of practical application, the personality, the outlook, the subjective experiences, the career of the composer, the poet, the artist may be an enigma. The energy of the latter expresses itself not

in the indulgence of the appetites, not in the accumulation of material values nor in the exploitation of the energies of others, not in the satisfaction of intellectual curiosity as to the structure of the universe or the essence of spiritual values. What he produces cannot be measured in terms of utility, of logical truth, of ethical validity, but in terms of æsthetic value. Artistic endowment gives to the urge for self-expression a special instrument, and the complex forces of the personality become organized around the dominant interest. In his creative activity he transcends the limits of space and time. His productions seem to do justice to certain human needs, and through these productions the individual is more adequately attuned to the cosmic system of forces. No mathematical nor ethical formula can be a substitute for the values of the composer and of the artist. Others may feel that they have grasped more profoundly the nature of the universe by employing the symbolic terms of physics, chemistry, mathematics, or by considering the universe as a system of developing spiritual forces which form the background of the life of the individual and of the race. The creative artist finds that he can do fullest justice to the totality of human experience through the medium of his special artistic endowment, and the technique of his art.

In the life of Beethoven we see how an individual of unrivalled force and feeling deals with the needs of the inner life, the demands of the cultural environment, the challenge of the universe; a unique artistic endowment is utilized as the outlet for a dæmonic system of forces. Into his musical compositions enter his abundant energy,

his consciousness of his own power and value, his striving for perfection of form, his rich life of feeling, his response to the main issues of life. The music is the man.

Beethoven [4] was a man of power, force personified ("la force en personne"), a picture of strength ("Ein Bild der Kraft"); a hearty eater of simple food ("régime substantiel et simple"), no gourmand; subject to furious outbursts of rage. He was conscious of his throbbing energy, of his need for self-expression, of the value of his work. It was not a narrow self-consciousness or pride, it was the realization of the presence of important indwelling forces; "I have never thought of writing for reputation and for glory. What I have in my heart must out; that is why I write." His theme dominated him, he was compelled to abandon himself: "I must multiply it in a spasm of ecstasy in all its modulations."

He had toward his fellows conflicting attitudes; a zeal for poor suffering humanity from childhood, an intense desire to do good, at the same time contempt and condescension: "I consider him and his like as mere instruments to be played on when I choose." He presented to the world a cold and reserved exterior; beneath that mask was a continuous and intense activity; "my life is a constant meditation."

He was responsive to the charms of the other sex, despised sordid indulgence, but probably had some lapses. He refused to fritter away his energy in trifling amours: "if I had thus wished to sacrifice my life force, what

[4] *Vid.* Rolland, Romain: *Beethoven.* Les Grandes Époques Créatrices. Paris, Editions du Sablier, 1928.

would have remained for the noble, the better?" Jealous of his independence, he fought shy of bondage to any woman. A high ideal of woman inspired him and exerted a directive influence on his work.

When he had before the age of thirty to face the appalling threat of approaching deafness, the reaction of dismay and discouragement was followed by the mobilization of all his resources to meet this challenge, which thus served to deepen his personal experience and enrich his musical creations (the *Eroica,* the *Appassionata, Fidelio*).

Beethoven did not find an integration or harmony of the conflicting forces of his nature in scientific investigation, in devotion to social progress, in spiritual absorption; he found it in musical creation.

It is of interest to hear what one of his biographers [5] says about this medium of expression. Herriot considers that music is able to express with a delicacy and fulness and living quality the inner experience of man in a way which neither the spoken word nor the art of sculpture nor of painting can express. In the musical creation there is not the precise outline of the literary phrase, but there are unequalled means of expressing joy and grief, the infinite subtleties of human emotion, the phases of internal meditation, the flight of phantasy. In music the distorting influence of intermediary words is eliminated, the realm of the unconscious can express itself more fully than in any other way. With this capacity for expressing

[5] Herriot, Édouard: *La Vie de Beethoven.* Paris, Librarie Gallimard, 1929.

fully and freely the richness of the inner life of man, music may perform a great rôle in a cultural environment: "It sustains the moral life of the believer as it is, for the pagan, their whole prayer; it envelops our dearest memories without oppressing them. Through it passion is reconciled with reason. Even up to the present day one has not awarded to music its proper place either in education or in the history of human civilization; and that proves how much that is crude still exists in our culture. But because for its effect it borrows only spiritual elements, there is in music a principle of immortality." While paintings become discolored and frescos fade from the walls, the Ninth Symphony is as fresh as it was when enthusiastically received on May 7, 1824.

An echo of these sentiments of Herriot may be found in the more homely phrases of the iron-master of Pittsburgh and in his practical generosity: "A taste for good music, he declared, was as necessary to progress as a taste for good reading. . . . 'Music, sacred tongue of God, I hear thee calling and I come' . . . this quotation, frequently on Carnegie's lips, led him to sprinkle the United States, Canada and Great Britain with not far from 8,000 organs. . . . 'You can't always trust what the pulpit says,' Carnegie would remark, 'but you can always depend upon what the organ says.'" [6]

The artist like the musician treats the universe as more than a meaninglesss system of physico-chemical forces, as more than an arena for the display of ethical qualities, or

[6] Hendrick, Burton J.: *The Life of Andrew Carnegie.* Garden City, N. Y., Doubleday, Doran and Company, Inc., 1932.

for the accumulation of personal satisfactions. To him, too, it is penetrated with values to which he responds in virtue of his special endowment, and which he strives to express through his own artistic medium in an idiom and with subjects partly determined by the culture of the period. His creative activity at the same time does justice to his varied egoistic and social needs, represents his individual contribution to cultural values, and expresses his personal stand in regard to the challenge of the universe.

The contribution made by Turner through his art was most fully appreciated by Ruskin. "In Turner, Tintoret, and Paul Veronese, the intenseness of perception, first, as to what is to be done, and then, of the means of doing it, is so colossal, that I always feel in the presence of their pictures just as other people would in that of a supernatural being. Common talkers use the word 'magic' of a great painter's power without knowing what they mean by it. They mean a great truth. That power *is* magical; so magical, that, well understood, no enchanter's work could be more miraculous or more *appalling*——" [7] "This man, this Turner, of whom you have known so little while he was living among you, will one day take his place beside Shakespeare and Verulam, in the annals of the light of England.

"Yes: beside Shakespeare and Verulam, a third star in that central constellation, round which, in the astronomy of intellect, all other stars make their circuit. By Shake-

[7] Ruskin, John: *Modern Painters.* London, Smith, Elder and Co., 1873, Vol. IV.

speare, humanity was unsealed to you; by Verulam the *principles* of nature; and by Turner, her aspect." [8]

A detailed analysis of the personality of Turner would involve reference to his unhappy childhood, thwarted love, somewhat solitary and seclusive existence, deep social response, tender feeling for nature, increasing preoccupation with color and brilliance, extraordinary industry. In his pictures, Turner not only revealed to his fellows hitherto unsuspected aspects of nature, he suggested the presence of indwelling forces; inspired by his pagan worship of color and brilliance, his canvases caused vague echoes of the forgotten cult of Mithra to stir within the minds of his countrymen. "When dying, his last vision was that of the setting sun, which shone upon his face as he was raised in bed to witness it, and, resting there, cast its dying glory on him as he uttered these, his last words: 'the Sun is God.' " [9]

The figure of Shelley stands out prominently among those who create æsthetic values through poetry. Impulsive, erratic, imaginative, he did not succeed like Beethoven in organizing a stable system out of the component forces of his personality, which presented such startling variety. Crude appetite played little rôle in the personality; he was rather ascetic, bored by food. Responsive as he was to female beauty, it was not sensuality but sentiment and romance that determined his imprudent career. His pleasures were individual, unconventional, he

[8] Ruskin, John: *Lectures on Architecture and Painting.* London, Smith, Elder and Co., 1854.

[9] Swinburne, C. A.: *Life and Work of J. M. W. Turner, R.A.* London, Bickers and Son, 1902.

delighted in soap bubbles, paper boats, toy balloons; he lived in a delicious world of make-believe. The shy and delicate youth had a fiery independence, resented the tyranny of individuals or of social codes; he defied his schoolmates, his university, social conventions, he was the militant atheist.

He was not embittered by early tyranny, retained a delicate sympathy for struggling humanity; wherever there was a wrong to be righted he rode out to break a lance, whether for Harriet in distress or for the Irish Catholics in their political plight. He sought little for himself, neither prestige nor power, but had "a passion for reforming the world," wished to make his fellows familiar with "beautiful idealisms of moral excellence," placed at their disposal his moral and political code. His utterances, he claimed, were inspired by these didactic motives, but really owed their origin to his delicate appreciation of beauty, his soaring imagination, his need for self-expression. In the words of his fellow poet, Francis Thompson, "the one all-sufficing motive for a great poet's singing is that expressed by Keats:

I was taught in Paradise
To ease my breast of melodies."

As Turner through his brush revealed to his fellows certain aspects of nature, so Shelley with his pen gave his readers glimpses of heaven which otherwise they would never have attained. If something of the pagan gave intensity to Turner's worship of color and brilliance, in Shelley both the pagan and the child escape from the

bondage of a philistine culture and find glorified expression. Thompson has given unrivalled expression to this quality of Shelley's poetry: "He is still at play, save only that his play is such as manhood stops to watch, and his playthings are those which the gods give their children. The universe is his bag of toys. He dabbles his fingers in the day-fall. He is gold-dusty with tumbling amidst the stars. . . . He dances in and out of the gates of heaven; its floor is littered with his broken fancies. He runs wild over the fields of ether. He chases the rolling world. He gets between the feet of the horses of the sun. He stands in the lap of patient Nature, and twines her loosened tresses after a hundred wilful fashions, to see how she will look nicest in his song." [10]

Curious as to the mechanisms of nature, zealous for social reform, interested in discussing philosophical problems, the main stream of his energy was poured into his poetical creations; they did justice to his delicate perceptions, his exuberant phantasy, his abounding energy, his instinctive response to the values and the inner nature of the universe, which the philosopher and the scientist approach by other routes. In doing justice to his own complex inner needs by his creative activity, he was at the same time playing his part in the cultural activity of the group and taking his stand with regard to the challenge of the universe.

In response to beauty and in the creation of values, the artist finds modes of activity which play a central rôle in his life. A similar rôle is played in the life of the scientist

[10] *Op. cit.*

by the quest for knowledge. The patient investigation of the secrets of nature is a development of that fundamental response of living matter to the energy that impinges upon it, which at a certain level of development takes the form of curiosity. The animal fixes its gaze on the novel object, walks around it, cautiously manipulates it; the infant grasps the object, puts it in its mouth; the adult observes, manipulates and seeks to grasp not only the material object but the underlying secrets of its structure and function. Through his intellectual grasp of the structure and functions of the universe the individual enters into more intimate relations with his environment, establishes a bond of different nature than that of the æsthetic response. He, too, interprets the universe to his fellows, but he uses a different key and reveals other secrets.

Faraday may be chosen as an outstanding example of those whose lives have been devoted to the painstaking investigation of the universe. In his investigative activity he satisfied the urge of curiosity, he found scope for the employment of his unusual intellectual endowment, he made a gift to his fellows of the results of his researches. In Faraday's personality we find little expression of an urge toward material comfort and pleasure, little evidence of a craving for personal power or prestige. To him the pursuit of private gain through trade seemed vicious and selfish; he deliberately rejected the opportunity to enrich himself through his scientific attainments and died a poor man. He declined an offer of knighthood; he refused to become the President of the Royal Society, as he feared

the influence of prestige on "the integrity of my intellect." While pursuing relentlessly his fundamental investigations into the physical forces of nature, his intellect called a halt before the problems of the spiritual forces. Here he humbly accepted as final those values which others had determined and which satisfied the needs of his nature. He was a devout member of the fellowship of the Sandemanians. In contrast with Saint-Simon, to whom we shall later have occasion to refer, he felt no need of grasping the whole physical and spiritual world in one unitary system whose constituent formula should be within the grasp of man. He deprecated the attempt by the aid of the intellect to deal with spiritual values, and claimed "an absolute distinction between religious and ordinary belief." He held that the truth with regard to such problems as immortality "cannot be brought to man's knowledge by any exertion of his mental powers, however exalted they may be; it is made known to him by other teaching than his own, and is received through simple belief of the testimony given." In this attitude he showed a kinship to Pasteur, who made no attempt at a synthesis of his observations of nature and of his religious beliefs, but was satisfied with the traditional religious presentation of the order of the universe and its spiritual values, took part in the observances of his religion, and obtained spiritual comfort from it in his declining years.

When the claims of the spiritualists and their table-turning antics were thrust upon him, Faraday felt the human intellect competent to deal with these mundane

affairs, made some experiments, and commented on the folly and absurdity of mankind.

Darwin, an equally industrious investigator, laid little stress on material comfort or gains, he did not reach out for power, he appreciated prestige more than Faraday: "My love of natural science has been steady and ardent. This pure love has, however, been much aided by the ambition to be esteemed by my fellow naturalists." "I cared in the highest degree for the approbation of such men as Lyell and Hooker, who were my friends, I did not care much about the general public. . . . I am sure that I have never turned one inch out of my course to gain fame."

While Faraday and Pasteur pursued their special researches with a background of settled faith, while Saint-Simon and Comte were intensely preoccupied with the relation of science to a comprehensive system of beliefs and values, Darwin was not troubled with his personal relation to the realm of spiritual values: "I have never systematically thought much on religion in relation to science, or on morals in relation to society." These problems did not represent an insistent personal challenge to him; he could establish an internal harmony without the need of any comprehensive system of beliefs: "But I may say that the impossibility of conceiving that this grand and wondrous universe, with our conscious selves, arose through chance, seems to me the chief argument for the existence of God; but whether this is an argument of real value, I have never been able to decide. . . . I am, also, induced to defer to a certain extent to the judgment of the many able men who have fully believed in God; but

here again I see how poor an argument this is. The safest conclusion seems to me that the whole subject is beyond the scope of man's intellect; but man can do his duty." [11]

The personality of the investigator, especially if supplied with the familiar domestic and social satisfactions, may find a stable equilibrium and an adequate medium for self-expression through intellectual preoccupation with the orderly structure of the universe, supplemented or not by a religious or philosophic creed. Æsthetic values and intensity of personal feeling may be of secondary importance, and play little rôle in the evolution of such a personality.

In the personality of some ardent natures of different type intensity of feeling is the central feature. Such a person does not find an equilibrium through the satisfaction of the appetites nor of human love, may crave neither worldly power nor prestige. The unimpassioned grasp of nature's laws or of a religious creed leaves him with his needs unsatisfied; he strains from inner necessity toward a certain intensity of experience, and in the white glow of that experience he finds supreme personal satisfaction and an immediate conviction of unity and harmony with the universe. The symbols utilized for the attainment of such an experience may vary in accord with the cultural environment and the special endowment of the individual; ecstasy may be arrived at by various routes.

Among the company of those who attain personal equilibrium in this way and who make their most strenu-

[11] *The Life and Letters of Charles Darwin.* Edited by his son, Francis Darwin. London, John Murray, 1887.

ous approach to the heart of things through the medium of mystical experience, Father William Doyle, S.J.,[12] is an outstanding example.

A happy schoolboy, companionable, interested in dramatics, indulging in practical jokes, he had a strong social sense; he was early interested in spiritual values and in the religious life; in peace-time he carried on his professional work acceptably, as a padre in the war he won the commendation of his commanding officers and the devotion of his men; he was killed in action by a shell on August 16, 1917.

Parallel with this program of efficient, professional activity he carried on a private personal life of extreme asceticism and self-mortification; he eagerly and continuously solicited the pangs of hunger, he exposed himself to bitter cold, to stinging nettles, he flagellated himself physically, he imposed on himself mental exercises of increasing severity. Such was his response to the challenge of the appetites, to the temptation to obtain satisfaction by simple procedures. He craved a satisfaction of a much more subtle kind, a satisfaction beyond the reach of ordinary nature, a satisfaction which involved a domination of the crude appeals of appetite. He had from his youth a craving for personal value of extreme degree, not for personal prestige of the ordinary type, but for a prestige which transcended the world of mundane affairs: "Even as a child I longed and prayed to be a saint." In his straining for his ideal of personal value he aimed to

[12] O'Rahilly, Alfred: *Father William Doyle., S.J.* A Spiritual Study. New York, Longmans, Green and Co., 1921.

transcend the limitations of individuality, he sought to identify himself with that all-pervading power immanent in the universe, the most adequate symbol of which he found in the person of Jesus. Notwithstanding these conscious aims of elevated nature, fundamental biological forces indicate their presence: "I long to get back to my little room at night, to calm and quiet, and yet I dread it, for He is often so loving there. I feel He is near, because I cannot go to Him in the Tabernacle. It is such a helpless feeling to be tossed about, as it were, on the waves of love, to feel the ardent, burning love of His Heart, to know He asks for love, and then to realize one human heart is so tiny." Again he wrote, "I know not why I am writing this except it be to ease my straining heart, for at times I feel half mad with the love of God." He no doubt gave a picture of his own condition when he attributed to the object of his adoration such reactions as the following: "Every fibre of His divine nature is thrilling with love for me, every beat of His gentle Heart is a throb of intense affection for me. . . ." In the words of his biographer, "Father Doyle's love for Christ was thus not confined to the cold upper regions of the soul, whither many who walk in the darkness of faith would relegate it. It was something which filled his whole being and at times overflowed sensibly." [18]

Father Doyle took the solid fact of his own intense personal experience as the clue which gave him the fullest revelation and most adequate grasp of the universe in which he had to play his rôle as a finite personality. For

[18] *Op. cit.*, p. 251.

the full expression of his individuality he did not need to go in for any special creative activity, to be a pioneer or initiator, to reorganize social life, to outline a new philosophy. The outlet afforded by his priestly vocation gave him adequate opportunity for social self-expression, but for him the dominant factor in the personal equilibrium was not the desire for personal power or prestige, nor for productive social activity, but the intensity of feeling; in such an individual solution theoretical systems and social relations play a negligible rôle.

In Santa Teresa of Spain [14] we see another individual reaching out in the same way for an intimate union with the spiritual forces of the world conceived in personal form, a union suffused with feeling, intensely personal and individual in its nature, devoid of theoretical systematization.

The mystical experiences of Santa Teresa were not so narrowly limited to intense preoccupation with the personality of Jesus and the accompanying feelings as in the case of Father Doyle; they were of somewhat more complex nature, as indicated by the term *visions* used to describe them. While in some visions there was merely the intense conviction of the presence of Christ beside her, in other visions she received communications bearing on her personal development and her underlying ambitions. The visions admonished, encouraged, predicted; thus a Voice said to her, "I would have thy conversation not with men but with angels," "Fear not, daughter, it is I,

[14] Colvill, Helen Hester: *Saint Teresa of Spain.* London, Methuen and Co., 1909.

and I will not desert thee. Be not afraid," "Wait a little, daughter, and thou shalt see great things." In one of her so-called "Intellectual Visions," "I saw or rather felt, for I saw nothing, whether with the eyes of the body or yet with the eyes of the soul; but it appears to me that Christ was by my side, and I knew it was He who used to speak with me. I was quite ignorant there could be this sort of vision and at first feared and could only weep; but when He spoke one word to reassure me, I became as I was wont quite tranquil and full of joy. . . . When my confessor asked me how I knew it was Christ, I could only say I was unable to tell how it was, but that I could not but feel it, and that it was a most clear thing to me." Her visions were not mediated through the senses, for in describing another vision she says, "This Vision, never did I see it, nor any vision with the eyes of my body, but only with the eyes of my soul." In the most famous of her visions, that which gave her the name of Teresa of the Transverberated Heart, preoccupation with spiritual values does not seem to be the dominant note: "I saw an angel in corporeal form, which was rare with me; for though often I have had perceptions of angels it has been without seeing them. He was small of stature, beautiful exceedingly, his countenance a burning flame. . . . In his hand was a spear of gold, at its point a little flame. It seemed to me that with this he thrust through my heart, not once but many times, and it pierced to my very innermost. It left me all on fire with great love to God. So great was the pain that I cried aloud; but great was the sweetness even of this pain, so that I would not lose

it. It is no corporeal pain, but spiritual though even the body participates in it. It is a rare token from God to my soul."

While Santa Teresa found the greatest value in the contemplative life, her abundant energy and need for self-expression found an outlet in her executive duties and pioneering enterprises; for over twenty years this indefatigable woman was founding new convents, traveling long distances under hard conditions, persuading, scolding, charming reluctant authorities, writing, financing, housing, feeding her spiritual charges. In the dynamics of her personality one finds no outstanding need for artistic creation, no eager intellectual curiosity; the cultural beliefs of her environment satisfied her intellectual needs, and within the framework of these beliefs and corresponding institutions she was able to find an adequate outlet for her special gifts. The hunger of her personal feelings was partly stilled by the ecstasies. Her social needs found an outlet in her personal friendships, her solicitude for the welfare of her nuns, her extensive missionary efforts which at the same time did justice to her need for self-expression.

Count Ludwig von Zinzendorf,[15] to whom the Moravian Church owed its rebirth in 1725, in the intensity of his feeling toward the object of his religious devotion is kin to Father Doyle and Santa Teresa. To him also the highest value in human experience, the deepest penetration into the inner nature of things, were to be attained

[15] Pfister, Oskar: *Die Frömmigkeit des Grafen Ludwig von Zinzendorf.* Leipzig u. Wien, Franz Deuticke, 1910.

not through scientific investigation and philosophical reflection, not through æsthetic response and creation, but through religious contemplation with the help of the personal symbol of the divine. The abundant energy of his many-sided nature required an outlet beyond that supplied by merely passive contemplation. In the organization of religious communities and in missionary enterprises, which carried him as far as North America, he found an outlet for his energy and for his pioneering gifts; this activity at the same time satisfied his need for self-expression and his desire for power and prestige.

The exact rôle of the social response in his personality is not easy to estimate. In the social organization of his religious communities it is possible that the trend toward self-assertion and the exercise of power played a greater rôle than kindly and sympathetic concern for the welfare and happiness of his parishioners. Certainly the regulation of the lives of the children of the community, with their enforced rumination on the sufferings of the Savior, showed a lack of sympathy with the needs of a child; it was intelligible as the enforcement on others of the austere régime of his own childhood, starved of natural affection as he was, brought up under the influence of his grandmother, a pious bluestocking.

The Count, like Father Doyle and Santa Teresa, cultivated an ascetic restriction of the appetites. He entered into marriage with much suspicion of "natural" love; he considered the marital relation as symbolic of a religious communion. Yearning to transcend the limits of individual human nature with its crude appetites, and to

commune with the divine, he concentrated on the person of the Savior. While Father Doyle flagellated and mortified his body in many ways, von Zinzendorf found a particular fascination in the wounds of the crucified Savior; he revelled in contemplation of these wounds with painful insistence, gave expression to this fascination in countless hymns full of terms of childish and sickly endearment. Thus in the intense contemplative experience which seemed to him to represent the highest attainment of the individual personality, we see the participation of crude and perverse factors. In his insistence that true piety consists in love rather than in adherence to dogma, an important social claim received its emphasis from the needs of his individual nature. The indwelling spirit of the universe, revealed to Turner in the radiance of light, to Beethoven in the harmony of sound, was revealed to von Zinzendorf in the person of the Savior, but in this revelation the supreme ethical and spiritual values are strangely subordinated to crude details, which owe their importance to certain anomalies in the Count's instinctive endowment.

The component factors of the personality may be harmonized under the dominance of other central interests than those of the creative artist, the scientific investigator, the religious mystic. The main interest of the individual may be in social values and in social organization, and in his preoccupation with these he may at the same time find the fittest outlet for his individual gifts and the most intimate communion with those forces which make up the structure of the cosmos. The simpler appetites, the

creative urge, the intellectual curiosity of the individual, his artistic and transcendental yearnings may be subordinated to and absorbed in his interest in the problems of social life, in the promotion of the welfare of humanity, in the analysis, systematization, justification of its values.

To this group belongs Claude Henri de Rouvroy, Comte de Saint-Simon,[16] or plain citizen Saint-Simon, as revolutionary Paris taught him in prudence to call himself. A man of unbounded energy, of original ideas, of robust appetites, it was in devotion to the study and the promotion of social welfare that he found his deepest satisfaction; immersed in these preoccupations he felt himself in fullest harmony with the cosmic forces which sweep through the individual, the group and the wide expanse of the universe. He was a man of action and of observation, rather than of feeling and passive contemplation. While not a religious mystic he, too, was rewarded with the thrill of intense experience, a thrill derived from intense preoccupation with his humanitarian schemes and philosophical speculations; a thrill associated with communion, not with the divine object of the Christian mystic but with the modern mathematical substitute, the law of gravitation. In a begging letter to his old business associate, Redern, he wrote: "I passed yesterday a delicious day. I was in a situation difficult to describe, it

[16] Dumas, Georges: *Psychologie de Deux Messies Positivistes, Saint-Simon et Auguste Comte.* Paris, Félix Alcan; 1905.

Weill, Georges: *Un Précurseur du Socialisme—Saint-Simon et Son Œuvre.* Paris, Perrin et Cie, 1894.

The presentation in the text of the life and opinions of Saint-Simon, as of August Comte, is summarized from the work of G. Dumas.

was an ecstasy during which I enjoyed the pure satisfaction of myself, of ourselves; there was in my sensations something transcendental, something divine. . . ."

He indulged in wine, women, gambling; but while there was no ascetic restriction of the appetites, the satisfaction of the appetites was not a major goal. Regardless of his personal fortunes he devoted himself to the development of his ideas, and if on occasion he was reduced to beg for the means of subsistence, he could do so with lofty mien, knowing that the appeal was in the interest of his humanitarian schemes and not for his own personal comfort. In tears he divorced his wife, with the intention of obtaining the widowed Mme de Staël as wife and collaborator; unfortunately he had not previously consulted the latter.

Enamored of system he had to expound the irregularities of his own life as part of a system. Thus he claimed that the man who devotes himself to exalted philosophical studies must do many acts bordering on insanity; he must mix with all people, experiment with all situations. He himself should thus be regarded as most virtuous, having worked most methodically at the progress of science, the source of wisdom; in his visits to disorderly houses and gambling dens, and in his association with doubtful characters "he was traversing the career of vice in a direction which conducted him necessarily to the highest virtue." In this the systematic French philosopher reminds us of the later sectarian Russian Rasputin. Saint-Simon considered the chaste Newton a somewhat incomplete philosopher, as he had not studied the microcosm, man, by the methods of Saint-Simon; to the latter the philosophers

of to-day would have seemed an unmethodical and anæmic lot.

The dominant social interests of Saint-Simon by no means submerged his feeling of personal value and his desire for individual prestige; it was through his social interests and not in conflict with them, that his individual self was to attain full expression. From an early age his desire for exalted self-expression was manifest; at the age of fifteen he gave his valet the order to awaken him each morning with the salutation, "Rise, M. le Comte, you have great things to do." Before he was nineteen he expressed his confidence in some day doing a scientific work useful to humanity. In prison, later, he received from Charlemagne the promise of a brilliant philosophical career; in his publications he did not hesitate to proclaim himself the mouthpiece of God, the founder of a new religion, the heir to Newton, the scientific pope of Europe. In his self-assurance he reminds us of Schopenhauer writing of his own *opus magnum,* "In the fourth book there are even some paragraphs which may be considered to be dictated by the Holy Ghost." In imagination, Saint-Simon saw himself receiving the prize for his epoch-making schemes from a committee composed of the twelve greatest astronomers of the world, presided over by Napoleon, or again from two emperors and the Prince-Regent; in the latter competition, open to the inhabitants of the globe, the prize was to be twenty-five millions.

These phantasies of personal glory, however, were not able to lessen noticeably the energy devoted to the elaboration of his social schemes; they seemed rather to con-

tribute to the zest with which he devoted himself to plans for a new social order and a new religion, which would replace the discarded feudal system and the lost spiritual authority of the church. In the new system which was to do justice both to man's needs and the structure of the universe, science was to be the guide. The structure of the universe could best be interpreted by the scientists, and in the organization of man's social life those who knew most of man, the physiologists, should play an important rôle. The views of Saint-Simon, which he put forth in somewhat phantastic form, may receive more attention to-day when couched in the sober words of a modern chemist: "It is a most curious inconsistency that the very scientific man who is credited with the basic responsibility for our present state of civilization, at least so far as creature comforts are concerned, should not be thought of by those in power for at least some slight contribution in the matter of social control." [17]

The new order of Saint-Simon was to do justice to the social, political, religious needs of man, who as part of the universe falls under the sway of universal laws, the most important of which, according to Saint-Simon, is the law of gravitation, that indwelling spirit or purpose, to which the whole creation moves.

Engrossed in these speculations, which at the same time allowed a place for the exercise of his individuality and harmonized the individual system of personal forces with the greater cosmic system, Saint-Simon satisfied his

[17] Schaar, B. E.: "Scientific Method and Social Relations." *Science*, Vol. 76, No. 1981.

energetic and enterprising nature, enjoyed the rôle of prophet, identified himself more intimately with his fellow beings, attained communion with the universe. It is true that the equilibrium of this energetic nature was not always maintained, that he passed through one prolonged delirious experience, that in a period of discouragement he made an unsuccessful attempt to blow out his brains. His exaggerated personal claims may amuse us, his social philosophy may lack coherence, but one must not think of him as a dreamer. He took part in the American War of Independence, he was alert to the significance of the new social order with its religious tolerance and lack of class distinction, he suggested to the Viceroy of Mexico the construction of an interoceanic canal; on his return to France he engaged in the greatest variety of undertakings, entertained lavishly, consorted with savants, studied physics and physiology; but throughout all the vicissitudes of his life and even on his death-bed his dominant interest was in the welfare of humanity, for which he had incessantly worked at his grandiose and systematic plans.

At the age of fifty-seven Saint-Simon took as his secretary and collaborator a young and enthusiastic disciple who came immediately under the spell of his brilliant senior and gave enthusiastic expression to his admiration for the latter's personality and intelligence, but who lived to describe his quondam master as a depraved quack, whose success had been due to a frenzied charlatanism. This disciple was Auguste Comte.[18]

The personality and the ideas of the disciple resembled

[18] Dumas, G.: *op. cit.*

those of the master much more closely than the former realized, and in the destiny of the two men there were many factors in common. In Comte, as in Saint-Simon, we find an overweening consciousness of personal value, an intense conviction of having a world rôle to play, the intellectual ability to give expression to his dominant interests by systematizing knowledge and outlining plans for the benefit of humanity. His social and philosophical task was the central interest of his personality, gave unity and order to its component factors. In Comte there was not the same wealth of interests to be harmonized as in the case of Saint-Simon, nor did he require to rationalize such an incoherent career. The personal equilibrium, established under the hegemony of his social interests, was no more stable than that of Saint-Simon; an attack of insanity at the age of twenty-eight placed him under the care of Esquirol for eight months; he made an attempt at suicide; in the forties twice, for a considerable period, the condition of his mental health was precarious. Comte had in one respect a more difficult personal problem than his predecessor, for, after having established a tolerable equilibrium under the domination of his humanitarian interests, at the age of forty-six years a rival claimant for domination arose in the form of his infatuation for the phthisical blonde, Clotilde de Vaux. From that time on he had to harmonize his individualistic and social tendencies with his infatuation for Clotilde and for her memory.

In regard to the appetites Comte showed no early tendency to asceticism; circumstances, not choice, imposed

on him the utmost frugality. At twenty-seven he married a prostitute of twenty-two, whose company he had frequented for four years, and during the following seventeen years he was unwilling to emancipate himself from the bond of this sensual attachment; her glaring infidelities ("the chagrin of domestic discomfort," in the mild words of John Morley) helped to precipitate his first mental attack, but his recovery was hastened by the rare courage and devotion which she showed in caring for him after he left the establishment of Esquirol. The disharmony in his sex adjustment was not without effect on his intellectual activities and on the formulation of his social views. In relation to the marital dissatisfaction he early writes, "I have nothing left but to concentrate my whole moral exisence in my intellectual work, a precious but inadequate compensation; and so I must give up, if not the most dazzling, still the sweetest part of my happiness." When Clotilde de Vaux refused to become his mistress and died two years after their first chance meeting, the repressed desires found a sublimated outlet in a ritual of mystic adoration of Clotilde and in certain modifications of his religion of humanity.

In adolescence, Comte had already given expression to his self-confidence. At eighteen his idol was Benjamin Franklin: "I seek to imitate the modern Socrates not in talents, but in way of living. You know that at five-and-twenty he formed the design of becoming perfectly wise and that he fulfilled his design. I have dared to undertake the same thing, though I am not yet twenty." As the elaboration of his positive philosophy and his religion of

humanity proceeded, the feeling of his personal value increased, he claimed that he had united the science of Aristotle with the political genius of St. Paul, he lectured statesmen and kings, he considered himself the religious head of a regenerated Western civilization, the high priest of humanity, the Pantheon alone seemed to him to furnish an adequate setting for the exercises of his new cult, he even hoped that he might transfer to Clotilde the immortality of which he personally was assured.

The egoistic trends in Comte were never dissociated from his social preoccupations, his distinction always appeared to himself as the necessary corollary of the prominent rôle which he had been appointed to play in directing the progress of humanity; he aimed at no individual satisfaction apart from that derived from his humanitarian activity, or if he had certain individual tastes and desires he had to formulate them as necessary deductions from the general principles of his system. Thus when he continued with his meager income to occupy the rooms hallowed by the visits of Clotilde, to his patrons he justified the expense not on the basis of the sentimental value of the rooms, but on their value as a precious instrument of work. His respect for system made him formulate the phases of his attack of insanity, the personality of his wife, that of Clotilde, in terms of his positive philosophy.

The talent of Comte for social and political speculation was revealed to him by his association with Saint-Simon, and from an early date he explicitly referred to his ambition to contribute to the happiness of humanity. This he hoped to do through the reorganization of so-

ciety, based upon a scientific study of man and of his social relations; "I shall work all my life, and with all my force, at the establishment of positive philosophy, but I shall do it because such is my irresistible vocation, because there lies the source of my principal happiness, and without ever claiming any other recompense than the esteem of the thinking heads of Europe." With complete devotion to the idea of system and of unity, technically much better prepared than Saint-Simon, he worked out a synthesis of the sciences, laid the theoretical basis for a science of sociology, outlined the principles which should govern social organization, elaborated the creed of a new religion which should do justice to the facts of science and the needs of human nature, in which Humanity was the God and of which he himself was High Priest.

The systematic philosopher had thus established a tolerable personal equilibrium between his individual complex of forces and the universe of which he formed a part when Clotilde de Vaux impinged upon his system. The equilibrium was disturbed; the philosopher had to deal with this new factor. Unity and system had to be preserved, so Clotilde was transformed in the light of his positive philosophy, while, on the other hand, certain modifications in his views of social polity did justice to this new force which penetrated his whole being. Into his social doctrines he introduced a more effective love than the rather pallid love of humanity, in his schemes of social organization he attributed to woman an exalted rôle, in the cult of his new religion the profound influence of Clotilde was manifest. His private life underwent a thor-

ough transformation. As Father Doyle, out of devotion to his Savior eliminated sugar from his tea, butter from his bread, so Comte in his devotion to Clotilde became an ascetic, lived a continent life, gave up his mundane hates, cultivated explicitly a correct attitude to superiors, equals and inferiors. In the thirteen years during which he survived Clotilde, he carried out thrice daily the detailed exercises of a cult in worship of her. In the value which he attached to the repetition of his ritual phrases in honor of Clotilde, one is reminded of the value which Father Doyle attributed to the mere number of "ejaculations" or aspirations in honor of the Virgin. While Father Doyle lost himself in the contemplation of the Savior as the object of his religious devotion, while Zinzendorf narrowed his contemplation to the wounds of the Crucified, while Saint-Simon worshiped the law of gravitation as the spirit of the universe, Comte found in Clotilde de Vaux the symbol which to him seemed to represent most adequately the highest values in human experience.

In Saint-Simon and in Comte we see men in whom the intellect plays an important rôle, but it is an intellect that is altogether at the service of powerful tendencies in the direction of social influence and of taking one's individual part in the march of social progress. Comte expressed his personal aversion for an intellectual activity which should not have an obvious humanitarian goal.

The humanitarian motif is a complex system with great individual variability. In the logical concept of humanity there may still be entangled something of a warm feeling toward one's neighbors, a feeling to which deep biological

urges of the organism make subtle contributions. Humanitarian interests of a simpler type than those of the social philosopher may in some individuals unify the constituent forces of the personality; through the continual exercise of native kindness in response to the immediate needs of his fellows, such an individual may find a stable equilibrium and a deep satisfaction and may feel in tune with the universe. He may have little interest in or capacity for the profound analysis or broad synthesis of social problems.

On the other hand, the social philosopher may have little of the milk of human kindness associated with his zeal for humanity; humanity may be for him a symbol, with the aid of which he gives the fullest expression to his egoistic impulses and free play to his intellectual endowment. It may be doubted whether Comte, even with his strong feeling of loyalty to his kind and his devotion to the cause of humanity, showed any unusual warmth of feeling for the individual.

Arthur Schopenhauer,[19] whom we take as an example of those who through reflective thought strive to attain a personal equilibrium and to harmonize with the cosmic setting, had less than the average kindliness for his fellow man, although devoted to the animal world. He had no reforming social zeal, derided as idle dreams any such social and political schemes as those of Saint-Simon and Comte. Science for Schopenhauer offered no hope of penetrating to the heart of existence; happiness could

[19] Wallace, W.: *Life of Arthur Schopenhauer.* London, Walter Scott, 1890.

never be attained by humanity even with the aid of the most cunning social program embellished with liberty, equality and fraternity. Yet Schopenhauer, too, seems to pay tribute to the claims of humanity in his desire that others shall share the benefit of his philosophic labors.

His primary interest in his own personal problems, not in those of his fellows, inspires the brilliant intellect of Schopenhauer. He starts from his own personal needs, his own conflict with the appetites, his fits of moody absorption. His fears and suspicions and distress over the misery of life make him long for some consolation from some other world, and he attempts by means of his intellect to fabricate a conception of the universe and its significance which will make life tolerable or at least take the edge off its misery. Unable to extract satisfaction from life through practical social accomplishment, he relies on his intellect to bring him some sort of peace: "Life is an awkward business; I have determined to spend it in reflecting on it." As to the appetites, Schopenhauer saw no reason why he should personally indulge in asceticism, although he might preach its value to others: "It is a strange requirement to insist that the moralist shall recommend no other virtue than he himself possesses."

The sexual appetite led to intermittent amorous experiences which left disappointment and disgust. He was unable to weave this biological factor into a personal relationship, which would at the same time do justice to his individual needs, to social demands, to spiritual values. Unable to establish a wholesome sex life, he throws the blame on woman, about whom he expresses most deroga-

tory ideas, neither allowing her physical beauty, any shred of morality, nor any sense of justice. He protests against granting to woman, with her complete lack of originality in cultural activities, a position equal to that of man. In relegating woman to a humble social position, Schopenhauer is influenced by his prolonged feud with his mother, just as woman in the ideal social organization of Comte owes her exalted rôle to Clotilde de Vaux.

The feelings of Schopenhauer for his fellow man were not warm nor kindly. He was estranged from his mother and his sister. There were few generous friendships in his life; his closest association was with disciples whose loyalty he was rather prone to suspect. At the same time he was not indifferent to the misery of others; in his adolescent travels the sight of wretched human beings and their habitations or the memory of tragic political events stirred him deeply, and in later life he might give a beggar alms. He was not, however, driven by a dominant inner necessity to take the needs of humanity as his personal responsibility and to put himself at its service. It is true that in his intellectual analysis of the situation he realized that the greatest satisfaction of the individual comes when the self can be submerged in some greater whole and when the individual devotes himself to humanity. Thus in the absence of any strong feeling of community with others he arrived at the law of charity and love by an intellectual process.

Although not driven by a strong feeling of social responsibility, his desire for personal value required the social recognition of the product of his labors. Humanity

might not interest him for itself; it could be his audience and his sounding board, and he was as ambitious as the scientific pope of Europe and the High Priest of Humanity. Urged by the inner disharmony of his personality to seek surcease of sorrow, he devoted himself to introspection, scrutinized the balance of human assets and liabilities, found that intellect plays only a limited rôle in human life, realized that man is the plaything of biological forces over which he has little control, and saw at first little possibility of bringing harmony into man's existence. The intellect, however, which at first seems to be merely the servant of the blind Will which sweeps through animate and inanimate nature, sees hope in various directions. Through art it is possible to attain a certain emancipation from the bondage of this cosmic Will; it is possible by asceticism, by detachment from the ordinary material interests and pleasures, to attain greater control of one's individual life; individual intelligence can somehow or other attain contact with a higher cosmic knowledge and thus enable the individual to escape from the trammels of mundane desire, and pass into a tranquil spiritual atmosphere. Thus Schopenhauer worked out for himself a scheme of man's relation to the universe which made life more or less tolerable to himself, and used his philosophy as a weapon with which to extort the admiration of his fellows.

As to the value of his philosophy, he had an absolute conviction: "Subject to the limitation of human knowledge, my philosophy is the real solution of the enigma of the world. In this sense it may be called a revelation."

He admitted that his philosophy might not be of use to the ordinary man, for the latter cannot utilize the philosophy of the genius. Yet it is only through the penetrating intuition of the latter and not through the plodding efforts of the scientist, that we obtain insight into the heart of the universe. As to the characteristics of the man of genius, Schopenhauer gives a detailed analysis; his account of the genius is essentially a portrait of Arthur Schopenhauer.

Haunted by a feeling of inner disharmony due to the inherent structure of human nature, his intellect enables him to draw aside the veil of appearance and see behind it the eternal verities of reality. Hampered by his petulant and irritable nature, which led to crudities of conduct, he is able to see the world as brooded over by a spiritual universal love. Dominated by an egoism which even in his later years led him to snap up eagerly every titbit of praise of his philosophy, he sees the essence of human life in a surrender of the individual self to a greater cosmic unity. In his preoccupation with these philosophical speculations he brings a certain equilibrium into his personal system of forces, adapts himself to his social environment and feels that he is in harmony with the totality of being. Himself a picture of discord, he thus rises above the friction of everyday life, tries to see the true destiny of man, recognizes the revelation supplied by works of art, and helps others to penetrate into a universe where we are each members, one of the other.

With this sketch of the pessimistic philosopher we may conclude our review of the ways in which the human per-

sonality adapts itself to its environment and utilizes that environment for the expression of its own indwelling spirit. That environment may be considered as a complicated physico-chemical system or as a spiritual universe; the human organism may be studied as a complicated reactive mechanism or as a system of spiritual forces. There is a danger that the predisposition of the individual thinker and the impatient desire for a unitary formulation may lead him to lay undue emphasis on one or other rigid formulation of the personality and the environment to the exclusion of other aspects of the total facts of being. One-sided emphasis may lead to a program of intensive and profitable investigation, but the results of such investigation must be integrated into a formulation which also does justice to those other aspects of the total situation, which the special investigator has ignored or provisionally discarded. Failure to consider the varied aspects of human experience not only leads to unsatisfactory intellectual formulations, it has also an important bearing on the individual conduct of life, and on the cultural progress of the community.

INDEX

Acromegaly, disorder of pituitary gland and personality changes, 41-42.
Adrenal glands, 44-46.
Anemia, mental state in, 24.
Anger, and parathyroid glands, 47; early appearance of, 94.
Apes, brain compared with that of man, 65.
Artist, temperament of and gonads, 47; his attitude to the universe, 212-213.
Ascetism, Father Doyle, 25-27.
Autonomic Nervous System, rôle of in the personality, 51-54.

BACH, JOHANN SEBASTIAN, inheritance of musical ability, 81.
Balloonists, reaction to lack of oxygen, 12.
BARD, expression of rage, 57.
BARRIE, J. M., memory, 92; rôle of the unconscious in authorship, 163.
BAUDELAIRE, inspired by odors, 61.
BEER, and personal traits, 32.
BEETHOVEN, the forces of his personality, 213-215.
BENSON, A. C., attack of depression, 50.
BEYLE (STENDHAL), antagonism to father, 195-196.
BISMARCK, pleasure from food and drink, 139; vivid emotional reactions, 142; antagonism to mother, 194.
Brain, rôle of, 64; areas of specialized function, 66; human contrasted with simian, 65.
Burman, his memory of a previous existence, 92.
BUTLER, SAMUEL, antagonism to father, 196.
BYRON, impetuous anger, 143; compensation for physical defect, 177, 178.

CANNON, WALTER B., bodily changes in the emotions, 57.
CARNEGIE, ANDREW, judge of men, 147; love of music, 216.
Catastrophe, reaction to, 160.
Central Nervous System, 58.
Characters, of Theophrastus, 125-126; of Earle, 126; of La Bruyère, 126; of Paulhan, 127.
Child-parent relationship, 105 *seq.*
Chromosomes, 76.
Climate, influence on personality of, 34-37.
Climbers, personal reaction to lessened oxygen, 10-12.
Code of values, 106, 119-120, 173-174.
Compensation, for defect or inferiority, 175, 178.
COMTE, AUGUSTE, forces of his personality, 236-242.
CONRAD, JOSEPH, creative rôle of the unconscious, 164-165.
Cretins, mental state of, 23.
Curiosity, basis of science, 221.

DARWIN, CHARLES, boyish credulity, 148-149; boyish fabrication, 118; note on memory, 159; the forces of his personality, 223-224.
Defect, reaction to, 175 *seq.*; Helen Keller, 176; Theodore Roosevelt, 177; Lord Byron, 177.
DE MUSSET, his emotional life, 144.
Depression, 49 *seq.*
DE VAUX, CLOTILDE, influence on Comte's life and philosophy, 237.
Docility, relation to pituitary gland, 43.
DOYLE, FATHER WILLIAM, his asceticism, 25; forces of his personality, 225-227.
Drosophila, genetic studies of, 79.
Drugs, influence on personality, 28-31.

EARLE, JOHN, characters of, 126.
Egoism, of Saint-Simon, 234; of Comte, 238-239; of Schopenhauer, 244-245.
Elimination, importance of in development of personality, 98.
Emotions, rôle of diencephalon, 57; Bismarck, 142; Handel, 142-143; Byron, 143; de Musset, 144; J. S. Mill, 144; Mozart, 145.
Encephalitis, change of personality after, 69.
Endocrine glands, 41 *seq.*
Energy, adrenal glands, 45; gonads, 47; John Wesley, 134 *seq.*
Environment, its fitness for man, 33.
Extravert, 128.

Family, inter-personal relations within, 191, 198.
Famine, in Russia, 21.
FARADAY, MICHAEL, the forces of his personality, 221-222.
Fat boy, of Pickwick Papers, dyspituitarism, 43.
Father, reaction to child, 191-193; antagonism between father and son, 195.
Feeling-tone, 51 *seq.*
Femininity, and pituitary gland, 44.
FLAUBERT, reaction to thirst, 16; his character, 127.
FRANCE, ANATOLE, materialism, 39-40.
Friendship, Gosse P. H., and Edmund, 145; J. S. Mill, 146; Heine, 146.

GALTON, FRANCIS, visual imagery, 63; the gregarious instinct, 198.
Genes, the agents of heredity, 77.
Glands, adrenal, 44; gonads, 47; parathyroid, 46; pituitary, 41; thyroid, 46.
God, useful in emergencies, 210.
GOETHE, visual imagery, 63.
Gonads, 47.
GOSSE, EDMUND, relation to parents, 115; childish magical ideas, 115.

HALDANE, on respiration, 13, 89.
HANDEL, hearty appetite, 140; violent anger, 142-143.
HEAD, HENRY, relation of feeling-tone to optic thalamus, 55.
Hearing, 62.
HEDIN, SVEN, reaction to thirst, 15-16.
HERRIOT, EDOUARD, views on music as medium of expression, 215-216.
Humidity, a solvent of virtue, 37.
Hunger, reaction of explorers, 17-19; of beleaguered soldiers, 20; of peasants, 21.
Hypnotism, 151.

IBN BATUTU, and Eastern marvels, 150.
Infancy, emotions in, 110; self-assertion in relation to food, 97; to elimination, 98; pleasure-seeking tendencies in, 104.
Inferiority, feeling of, 178-184.
Integration, of component systems of the personality, 168-169, 173.
Introvert, 128.
Iodine, 24.

JAMES, WILLIAM, reaction to nitrous-oxide, 30; types of personality, 129; alternative selves, 160-161.
JEANS, SIR JAMES, the universe of the philosophical physicist, 206.
JOHNSON, SAMUEL, indolent, 134.
JUNG, C. G., types of personality, 128.

KAROLYI, MICHEL, compensation for physical defects, 181-182.
KELLER, HELEN, compensation for physical defects, 64, 176.
KRETSCHMER, relation of physique to character, 129.

LA BRUYÈRE, characters of, 126.
Language, of infant, 113; general importance of, 113.
Laziness, apparent and thyroid disorder, 46.
LOYOLA, IGNATIUS, religion as compensation for physical handicap, 176.
LUDWIG, OTTO, visual imagery, 63.

MARK, DR., acromegaly, 42; blindness to personal deformity, 159.
Marriage, 189-191.
MARX, KARL, his industry, 137.

Masculinity, adrenal gland, 45; anterior lobe of pituitary gland, 44.
MAYER, JULIUS ROBERT, the creative activity of the unconscious, 162.
Memory, forgetfulness of the unfavorable, 159; of the painful, 160.
Mescalin, reaction to, 29.
MESMER, 151.
MIDDLETOWN, its culture, 207-210.
MILL, JOHN STUART, attack of depression, 49; his pallid emotions, 144.
Mother, reaction to child, 193; antagonism between mother and son, 194.
Mountain climbers, reaction to lack of oxygen, 10-12.
MOZART, devotion to father, 145.
Music, love of and pituitary gland, 42-43; unique medium of expression, 215-216.
Musical ability, inheritance of, 82.

NAPOLEON, and religion, 32.
Nitrous oxide, reaction to, 30.

Occupation, importance of, 201-202.
Optic thalamus, relation to feeling-tone, 54-56.
OSLER, SIR WILLIAM, on the later depravity of bottle-fed infants, 101.
Ovary, 47.
OWEN, ROBERT, self-assertion, 95.
Oxygen, deprivation of, 10-14.

Pain, rôle of optic thalamus, 54 *seq.*
Parasympathetic, portion of the autonomic system, 51.
Parathyroid glands, 46.
Parent-child relationship, 191 *seq.*
PASTEUR, scientist but devout, 222.
PAULHAN, characters of, 127.
Pellagra, mental state in, 23.
Phantasy, productive and substitutive, 165-166; in industry, 202-203.
Pituitary gland, 41-44.
Pleasure, rôle of optic thalamus, 54; influence on conduct, 96; sources of, 97.
Port-wine, part of the fitness of the environment, 33.
Primitive thought, 120 *seq.*; in childhood, 114-116.

RASPUTIN, his magnetic influence, 152-154.
RENAN, the importance of sex, 185.
Repression, 155-158.
ROBESPIERRE, compensation for inferiority, 182-183.
RODZIANKO, reaction to Rasputin, 153.
ROOSEVELT, THEODORE, reaction in youth to physical weakness, 176-177.
RUSKIN, JOHN, praise of Turner, 217-218.

SAINTSBURY, GEORGE, wine as evidence of the fitness of the environment, 33.
SAINT-SIMON, forces of his personality, 232-236.
SANTA THERESA (of Spain), forces of her personality, 227-229.
SCHOPENHAUER, ARTHUR, on sex, 185-186; attitude toward woman, 183; compensation for inferiority, 183; antagonism to mother, 194; forces of his personality, 242-246.
SCOTT, CAPTAIN, tenacious of life, 171; cultivation of strenuous character, 178.
Scientist, attitude to the universe, 220-221.
Self-assertion, 94-95.
Self, the alternative selves, 160-161.
Self-expression, man not merely a reactive system, 205-206.
Senses, the special, 59 *seq.*
Sex, cultural taboo on, 103; influence on personality, 184; marriage, 189-191; persistence of childhood tendencies, 187; atypical sex components in religious experience, 231.
SHELLEY, his early spiritual isolation, 172-173; *puer eternus*, 157; the forces of his personality, 218-220.
Siblings, rivalry between, 109.
Sight, sense of, 62; visual imagery, 63.
Smell, sense of, 59-61.
SMITH, LOGAN PEARSALL, lament over limitations of personality, 161.
Social, adaptation, 198-200.
SPRANGER, types of men, 130-132.
Starvation, reaction to, 31.

STOLYPIN, reaction to Rasputin, 152-153.
Subconscious (unconscious), the realm of the, 155-162.
Sucking, successful and unsuccessful, its relation to personality, 100-102.
Sugar, and personality, 23.
Suggestion, in childhood, 148; importance in adult life, 149-152, in primitives, 151.
Sunshine, and personal traits, 34.
Superstition, 121-123.
Sympathetic Nervous System, its rôle in personality, 52.
Sympathicotonic, type, 53.

Taste, sense of, 61.
Temperature, effect on virtue, 37.
Testis, 47.
THEOPHRASTUS, characters of, 126.
Thirst, reaction to, 16.
THOMPSON, FRANCIS, appreciation of Shelley, 219-220.
Thyroid gland, 24, 46.
TISSANDIER, ascent in balloon, 12.
Touch, sense of, 61.
TURNER, J. W. M., forces of his personality, 217-218.
Types of personality, 128.

Unconscious (subconscious), the realm of the, 155-162.

Vagotonic, type, 53.
Visions, of Santa Teresa, 228-229.
Vocation, importance of, 201.
Voice, and personal influence, 62, 149-150.
VON ECONOMO, specialized areas of brain, 66.
VON SCHEFFEL, J. V., visual imagery, 63.

WAGNER, RICHARD, carousing as a defense of the personality, 173.
Water, importance for the organism, 14; reaction to thirst, 15-16; water-drinking and personal traits, 32.
WESLEY, CHARLES, ascetic experiment, 27.
WESLEY, JOHN, his prodigious activity, 134-137.
Wind, influence on personality, 35-36.
Wine, and personal traits, 32-33.

ZINZENDORF, LUDWIG VON, forces of his personality, 229-232.