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# GENETIC PHILOSOPHY OF EDUCATION

AN EPITOME  
OF THE PUBLISHED EDUCATIONAL WRITINGS  
OF PRESIDENT G. STANLEY HALL  
OF CLARK UNIVERSITY

BY

G. E. PARTRIDGE, Ph.D.  
FORMERLY LECTURER IN CLARK UNIVERSITY

*WITH AN INTRODUCTORY NOTE BY PRESIDENT HALL*

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## PREFACE

IN this book I have tried to present, for students and all interested in education, the main teachings of the genetic school as these are formulated in the writings of its most enthusiastic and strongest representative, indeed we may say its creator, President G. Stanley Hall, of Clark University. In a word, my book is an epitome of the published writings of President Hall, and is solely that. I have added nothing I have not found in his writings, and I have drawn from no other sources. Though the influence of his work, which I think we may justly claim to be the most important contribution of all times to the philosophy of education, has now been felt in every department of the school system, and in all fields of activity in which human welfare is an ideal, both at home and abroad, this philosophy as a whole seems still inaccessible to a great many who need to have it in a simple and comprehensive form. At the close of 1909 President Hall's collected works included two hundred and ninety-five titles of books and articles, almost all bearing upon the subject of education.<sup>1</sup> Aside from the quantity of this material, its style and the great variety of publications in which the articles

<sup>1</sup> My review has included all that had been published at the close of 1911.

are to be found interpose obstacles both to the interested reader who is not a specialist, and also to such a task as mine. I cannot hope to have included in a single small volume everything important to educational theory contained in these writings. I have tried merely to trace the main thread of the argument, and to show the applications of the genetic view of the problems of education in such a way that anyone willing to follow closely a condensed outline, without the help of much illustration and elucidation, can readily understand. I am quite conscious of failing to convey adequately the scope of the contributions of Dr. Hall to the great themes of feeling, morals, religion, and the motor life, to the educational aspects of which I believe he has brought greater light than any other man: and especially it would be a matter of regret if I have given the impression, either that here is a closed system of thought which we may now proceed to teach, or that the last word of the thinker whom I have tried to represent has been spoken. On many of the most important themes we may still expect new thoughts from him which cannot fail still further to broaden our conceptions of education. I regret, too, that the style and persuasiveness, and the richness of content and illustration that characterises all the writings of Dr. Hall have, of necessity, been almost lost in so brief a review. All I can hope is that nothing essential of the argument nor of the more general applications of the genetic principles has escaped me, and I think there has not. My work is an introduction rather than a summary. Many of the

articles should be read by every student, and no one can claim to be informed about education until he has read and studied at least the two larger works of President Hall: *Adolescence* and *Educational Problems*.

It is difficult to explain precisely how the materials have been treated, since no uniform method has been adhered to. Often I have merely condensed, sometimes I have quoted, but more often I have told in my own words the main point of a discussion. I have tried to bring to the topic in hand all that I could find, without regard to the order in which it appeared in the original. Such a method makes it difficult to refer each statement and paragraph to its sources, so I have merely indicated by references the main articles bearing upon the topic of each section. In Chapter VIII, more than elsewhere, I have felt the need of explaining in my own words the principles of the genetic education. Here I have departed most from the originals, and presumably have sacrificed most for the sake of brevity. The general arrangement is entirely a choice of my own, and is made both to facilitate the practical use of the genetic philosophy, by student and teacher, and also to try to suggest the cogency and order of it by throwing its main features into sharp relief in a systematic presentation. Several possible arrangements suggested themselves, each, including the one I adopted, having limitations. The plan chosen is to show the genetic theory at work, so to speak, within three groups of problems which all together make up the main or central themes of edu-

cation. The first part contains the philosophical, biological, and psychological bases of the educational theory: those general principles of the sciences of human nature upon which education must rest. The second part presents the principles of education, understood as the whole process of conscious evolution and the effect of environment generally — principles applicable, therefore, not only to the school, but to the home, and to all other institutions that control the child. The third part indicates the application of these principles to the departments and problems of the school. Part IV contains special chapters upon religious institutions, the education of women, and racial pedagogy. Such repetition as this arrangement involves seems to be advantageous, both in enforcing the main principles upon which education rests, and also in making a clear statement upon each topic.

All must admit that there is a lack at the present time, at least among the rank and file of teachers, and in the public mind generally, of any adequate philosophy of education, or even of a point of view from which the themes of school and home can be discussed broadly and intelligently. The older philosophies of Froebel, Hegel, and Herbart are certainly insufficient to meet present needs, and especially in the training of teachers is this painfully felt. They are not only obscure, and little inspiring, either of breadth of thought or intelligent practice, but they fail entirely to connect with the teacher's daily life, unless they be taught in a very shallow and formal way.

The question now arises whether, in the new genetic

theory of education, we have not already a much more suitable philosophy for the school and the home. No one would maintain that we have in it a completed system of thought, and indeed the fundamental principle of the theory itself denies such a possibility, but at least it can be claimed that the evolutionary philosophy has now made a first survey of all the main problems of education, and that a far better philosophy for the teacher has been produced than has ever before been offered to him. It has the great advantage of pertaining to the same world as that in which the practical worker lives and thinks; it touches his experience and demands of him a kind of thought in which he is already at home. It asks him to consider childhood, his own childhood, in the light of the whole past and future of the race — a broad programme, to be sure, but one that is not out of the reach of the ordinary mind, even though it be quite incapable of rigid philosophic thinking. The genetic view is thus helpfully democratic. It stands for an interpretation of the common facts of everyday life. It gives an honourable place, in the search for truth, to feelings that all have and can understand, and to common sense. It is thus one aspect of the pragmatic wave which has lately inundated even the higher places of philosophy, and the study of education from the genetic point of view becomes one of the best introductions to the new humanism, and to all the more special branches of philosophy. Its central principle is indeed that very doctrine upon which all pragmatism is based — that it is in terms of man's practical inter-

ests that all theoretical problems are finally to be judged, and all human institutions appraised.

If the centre of the training of teachers were in the schoolroom, where it should be, ideal conditions would be obtained for the teaching of just such a philosophy of education as the genetic view contains. The student would soon see that, though common sense and instinct are the corner-stones of his art, they are not the whole structure. Questions would arise demanding answers that can be learned only by a broad study of childhood and interpretation of it in the light of science. From such a quest the student would return to his practical task with enlarged views of both the theory and the practice of it, only to find that there are still deeper problems. It is by such a natural dialectic that the thoughtful teacher broadens out until he comes at last into contact with, and can absorb and utilise, that outer circle of scientific knowledge and reason that we may justly call a philosophy of education — those principles which represent the deepest interpretation of life of which one is capable. That the genetic or evolutionary philosophy is precisely the science of life and philosophy which must be the farthest vision of the great number of practical workers in every department of life, can well be claimed. If this philosophy need examination and searching criticism in the light of more fundamental principles, it is certainly no part of the work of the practical educator to undertake it.

The genetic philosophy of education, moreover, is not for the teacher alone; it is also an ideal philosophy



of parenthood and the home. School and home are here seen united in a common work, guided by common principles. The time is fast coming when no parent can be fully competent to train his child in the home unless he understand the thought that is directing the school. The genetic philosophy is becoming a common fund of knowledge for teacher and parent for it is the doctrine of the development of the whole individual under the influence and guidance of all the forces, inner and outer, which affect him, no one of which can be understood fully without reference to the others.

Though this book is intended especially for the student and amateur worker in educational theory, I should like to think that, as a result of it, some others — philosophers and experts — would feel disposed to bestow upon the evolutionary philosophy of education more searching criticism than they have hitherto given it. Here is at least the richest mine of practical principles which education has ever had the good fortune to fall heir to. Were they wrong throughout, they would still be justified by their effect in stimulating thought, as they do, upon every important topic in the whole field. Children, it seems, must be educated in any case, whether we have a philosophy or not. We have never yet come to the point, in education, where our fundamental principles can rest securely upon science or philosophy. Perhaps we never shall. But certainly science and philosophy are needed, and any philosophy that holds out hope even of practical as-

sistance for a time deserves a hearing, whether it be fundamental and logically coherent or not. But need we always remain without a foundation for education which shall satisfy, not only practical needs of the day, but all the demands of reason as well? Philosophers have held themselves aloof too much from the problems of the social life, business, and education, being willing to leave them to empiricists and practical people who do not demand consistency in their thought, and who are not afraid to proceed with faith rather than reason as their guide. But, at the present time, especially with the encouragement of the pragmatic and humanistic fashions in thought, should not philosophers, as well as scientists in special fields, attempt to bring the new education into line with their first principles, or perhaps broaden and readjust their principles to accommodate the new education? We have had much discussion of the limits and meaning of evolution from the standpoint of critical philosophy. Is not a wider field opened up by the genetic theory of education and the applications to practise which it seems to warrant? Are such principles as recapitulation, and the maxims that are drawn from it, ultimate? Do they stand alone, or do they come within the sphere of a more radical philosophy? Do we look rightly to philosophy to clarify such questions as specialisation, social service as opposed to the perfection of the individual, social force as antagonistic to nature, the conflict of reason and feeling, the place of æsthetic feelings in education? All these questions, so earnestly raised

by the genetic theory, and perhaps solved, yet demand criticism from every point of view. Here, if anywhere, academic philosophy may show its usefulness for practical life, for to answer the questions we raise is merely to become clear upon the fundamental principles of conduct, knowledge, the æsthetic, society, and nature. We can maintain that no philosophy in the past has thrown much light upon education. Is this limitation inherent in philosophy, or is it due to the fact that education has never yet presented to philosophy either sufficiently earnest problems or a broad enough gathering of data, to stimulate its interest and afford scope for its method? A more intimate relation, at the present time, between philosophy and education, however meagre the immediate results might be, could not fail, it would seem, to benefit both.

During the year or more this book has been in preparation I have incurred obligations that demand at the least a word of record. To my wife I owe so much that to mention merely many hours of assistance with troublesome questions of diction seems a singularly inadequate acknowledgment of her devotion to all my tasks. To President Hall I am deeply grateful for his hearty assurance of good-will when the work was first proposed and for prompt aid, on his busy days, when I needed help. To Dr. Louis N. Wilson, chief of that unequalled place of books, the Clark University Library, and to his staff, a word of thanks can hardly indicate, I am sure, my sense of debt for unwearied searching of files that my work might be easier. To

Mr. Robert K. Shaw of the Worcester Free Public Library, whose friendly interest and liberality made a perplexing part easy, I have again, as many times before, become a debtor. To other friends, especially to Mr. and Mrs. George Franklin Cole of Worcester, and Mrs. Walter Drew Loring of Boston, I owe much that cannot easily be expressed—most of all for the good-cheer that lands and seas did not bar. And last, to my little daughter, Miriam, whose willing feet have sped so many miles for me during months of my illness, my most loving gratitude is due.

G. E. PARTRIDGE.

Worcester,

January 16, 1912.

## INTRODUCTORY NOTE

Dr. George E. Partridge, the author of this work, was for some years my student and for many more has been my neighbour and friend. The proposition to epitomise my own views was his, but had I been moved to select someone for this purpose, I can think of no one I should have preferred to him. As I have read over these pages, I have had several pleasant surprises. One was to realise that the various partial views I have expressed at various times and places were capable of being mosaiced together into so respectable a whole as the author makes out of them in the first part of this book. Again, I have been surprised to see how well acquainted Dr. Partridge has made himself with even my smaller and more obscure articles and brought them into their place, and again, I have been pleased to recognise the wisdom of his judgment in sometimes retaining my own phraseology and often improving on it by briefer and simpler forms of expression. There seems under the circumstances that there is little else left for me to say in an introduction, except the above testimony to the general ability and fidelity of the representation and to this I very gladly bear witness.

G. STANLEY HALL.

Clark University,  
Worcester, Mass.

Jan. 12, 1912.



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## **PART I**

**PHILOSOPHICAL, BIOLOGICAL, AND PSY-  
CHOLOGICAL FOUNDATIONS OF  
EDUCATION**



## CHAPTER I

### WHAT IS EDUCATION?

EDUCATION may be defined, in one sense, as the whole effect of environment. The individual is in some way affected by everything with which he comes into contact, from the first moment of life until the end. Teaching and all other conscious efforts to shape the course of development are parts of a larger whole, the nature and laws of which must be taken into account in any adequate study of education. The purpose of teaching, thus considered, becomes plain. It is a factor in evolution: like natural selection, sexual selection, adaptation, it is a means of carrying on the development of the individual, and the evolution of the race, to a higher level. Man is as yet incomplete; it is likely that all his best experiences still lie before him. He may indeed be only at the beginning of a career, the end of which we cannot foresee. If this be true, the function of the present generation is to prepare for the next step. It must so live that it may become the best possible transmitter of heredity, and to the greatest degree of which it is capable, it must add to the equipment of the new generation. The efficiency with which these functions are performed is the test of the value of society, of education, and

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of all public institutions and private morality. All are best judged according to the service they perform in advancing the interests of mankind.

Immediately the old ethical problem of the conflict between self-interest and service comes to light. Is life devoted to the welfare of humanity entirely a life of self-sacrifice? What place is there in such an ideal for the private interests of the individual? We shall find that, on the evolutionary view, the welfare of the individual corresponds, in great measure, to that of the race, but that beyond this common good there is a sphere of self-interest, to live in which is to rob the future of its rights. It is the problem of education to develop the individual to precisely that stage of completeness at which he can most successfully live in the service of humanity, and at the same time enjoy a normal healthy life; and so to inspire the young with love for humanity, and so to educate their instincts and ideals that, when the rights of the individual and of the race come into conflict, the right of the race shall always be given precedence. Education of the young, thus understood, is plainly not only the most moral and vital work we do, but the most inclusive; for in a sense it involves all other practical activities. Nothing else requires so profound knowledge, nor so earnest thought, as the training of the child.

If this be a just valuation of the function of teaching, it is obvious that a science of education cannot be derived from any single principle, nor philosophy, nor science, however broad these may be. All

sciences, as well as all practical activities, must contribute, directly or indirectly, to the education of the young; and if they do not, they fail, by the criterion of value just declared, to have deep worth for life in any way. To understand fully what education means, to take an intelligent part in it, demands, therefore, a knowledge of many fields of human thought and action, and the most serious purposes we can bring to any work.

Too often theorists have tried to derive the principles of education from systems of philosophy, applying one or a few barren formulas to all problems. Naturally the teaching that has followed such philosophy has been narrow, schematic, and formal. Educational theory is too comprehensive, it lies too near to all the concrete, practical interests of life to be thus abstractly treated. And yet, for that very reason — because of the breadth and depth of the interests involved in education — some ultimate philosophy must play a part in it. In every deep purpose in life we act, consciously or unconsciously, upon beliefs beyond which we cannot go: upon affirmations which constitute for us our philosophy. In the same way education must assume or discover principles which shall represent the deepest and fullest meaning of the world, and this must be the foundation of all its thought and effort. The philosophy of the past, we say, has been too abstract, too formal, too far removed from practical life to meet the needs of so vast and changing a demand as the education of the child. Its chief service has been to the sciences that

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analyse experience, that try to sum up the past of the world, rather than to those that aim to forecast and direct the future. It has not stood well the test of ability to inspire youth with zeal, nor of stimulating effective and wholesome methods of training them — functions which a true philosophy, if it aspire to become a philosophy of education, must certainly perform. Therefore we look to new and untried philosophies for our first principles of education.

REFERENCES.— See page 13.

## CHAPTER II

### THE PHILOSOPHICAL BASIS OF EDUCATION

A TRUE philosophy, whatever else its purpose or merits, must bear the tests, both of inspiring youth with right attitudes toward life, and of inculcating correct views of education throughout society. It must be a body of principles capable of furnishing deep and wholesome motives and beliefs to teacher and parent, and it must be a creed suited to the needs of effective, practical living. In a word, a philosophy, to be true, must do more than merely hold together logically. It must have practical bearings. It must not merely dictate to conduct; it must also serve. In a very deep sense, it is quite as reasonable to say that philosophy is based upon education, as that education is based upon philosophy. Philosophy grows out of life, as its broadest and deepest meaning, formulated by the same powers of heart and mind that we apply to our other tasks. Only as such a sum of wisdom has it a right to dictate either to reason or to conduct.

The tests through which a philosophy must pass before it can be judged true are, therefore, many and severe. It must first of all be optimistic, pointing always toward the future rather than the past. It must grow out of, and be in harmony with, instincts

and feelings. It must agree with common sense, with sight and touch, and with all the realities of life. It must find a place for the facts of the physical sciences, and also for the truths of the world of ideals and imagination. Above all, it must inspire the young to activity, and to a love of knowledge.

These tests require that philosophy shall present the world to the mind as real—as doubly real. It is so for life; it must remain so in philosophy. We live in a world of physical facts, laws, and things. It is also a world of spiritual things, of things imagined rather than known, believed rather than proved. A true philosophy must stimulate the mind to live in both these worlds; to enjoy them, to believe in their reality. If philosophy merely substitutes for concrete experiences the intellectual effort completely to harmonise the world to the reason, it is wrong, for then it fails to make all of reality seem real. Thinking is not the only, nor the surest, road to truth. The intellect is at best a superficial part of the mind. Excessive analysis, introspection, and criticism is morbid. It can give us but a narrow view of reality, and can not alone reach the eternal verities. Reasoned philosophies and theologies pass away, but the deeper philosophy of poetry, folklore, belief—all that which comes from the heart—endures. All the great verities, religious and ethical, are formulations of the feelings—things believed rather than known or proved; truths that cannot be reached by argument nor demonstration.

Any philosophy that fails to make youth enthusiastic



in the right way; that fails to create interest in realities; that makes youth pessimistic or blasé; that arouses intellect more than feeling; that breeds familiarity with the universe, destroying wholesome awe and wonder, is wrong. It is wrong because it will not pass the profoundest test we have — fitness to lead men to the fullest enjoyment of a normal life of activity and interest in the future. The intellect has no higher claims to judge truth than these immediate feelings — nor so high — for it represents the individual alone, while the feelings are racial, and reveal to us truths larger than the self. All thought must eventually be brought to this test. Everything that claims to be thought good, beautiful, or true, must pass the censorship of our practical judgments. Anything that offends our deepest instincts as teachers and parents, or that is seen to be unfit to teach to youth, cannot be called true in the deepest sense.

No philosophy can be said to be proved valid until it is seen what it can do, directly or indirectly, for the coming generation. It is in this sense that it has been said that philosophy is dependent upon education. All truth has work to do, and its function is to guide and direct experience. Truth is therefore, in its last analysis, a tool of evolution — a part of the whole device we call education. Thought and action are mutually dependent. No system of truth can be reasoned out, from which alone practical rules of conduct can be derived. And no practical activity can be wholly right unless it has broadened out its grasp to include the deepest meaning of life.

Judged by such standards as these much of the philosophy of the present day, taught in the colleges, is found wanting. Much of it is merely critical, and ends in negation rather than in belief or affirmation. It is too rational; too analytic. It leads away from action, and not toward it. It is too likely to destroy the love of positive science, and to substitute for the natural tests of truth, artificial and shallow first principles and formulas. From it little can be derived that is helpful in education, and in no sense can we say that the rules of the art of teaching can be deduced from such truth.

Applying all these tests of truth to the facts of experience, and now understanding precisely in what sense a philosophy can be said to be a foundation for educational theory, what are the most general, most real, or most true realities and principles — the eternal verities beyond which the mind cannot go, but which it must accept as a basis, or point of departure, for all thought and action? It is not to be expected that these will be demonstrated, that they will be brought into a system completely harmonious from a logical standpoint, but rather they must satisfy moral needs, common sense, and instinct, and must square with the facts of science.

The most immediately and certainly known thing in the universe is space. It is the first element. It is infinite, a perfect continuum, that in which everything else exists — whether God, matter, or soul. Nothing can be more real nor more unanalysable. It needs no proof, and the belief in it cannot be uprooted by

any demonstration. The mind should rest on this belief, and all efforts to derive space, and to spin it out of consciousness, as is so often tried in philosophy, are perverted and wasted.

Wherever we look, we find that space is occupied. The world is full to the brim of something, which, by the help of modern physics, we know to be ether. Ether is everywhere, the basis of all that is real. The contemplation of it gives a sense of warmth and nearness, though our senses can grasp but an infinitesimal part of its reality. This substance existing in infinite space, and filling it with reality, is the basic material of the universe.

The world substance, however, does not merely exist in space. It has power or energy. Substance presents itself to us in motion, accomplishing work so vast in extent that we cannot comprehend it. But when we interpret it as will, and think of it as effort behind the doings of nature, our feeling of kinship with the universal power grows, though what this force is, which is everywhere at work, we cannot know.

Great as this power is, and so unfathomable in its nature, it is not a capricious and whimsical monster, but is subject to eternal laws. Every advance in the physical sciences confirms us in our belief that the universe is lawful through and through. And our daily experiences, as we carry on our activities in the complex but still orderly texture of society, add to our conviction that even the remotest part of the universe and the least comprehensible act are lawful

and orderly. Discovery of the lawfulness of the universe enables us to live in a feeling of security, with the belief that our provisions will not be futile, and that we are guided and supported in a universe that is controlled throughout by law, reason, and cause, and is working with the regularity of a machine.

But the universe is not merely a machine, governed by law and order. We see that it everywhere abounds in life — so exuberant and overflowing that the whole world seems animated. Every creature is driven by a will to live and to enjoy an ever higher and fuller life, and this seems to be the expression of a great fundamental purpose in the world.

Last, is the principle of evolution. The course of change is upward. The best survive, and the weak and ineffective go to the wall. There is everywhere advance and improvement, and the field of pleasure is ever widening. The principle of growth is benign, and the evidence is borne in on us from every hand that good-will and beneficence are at the root of all things — that a power exists that is friendly to man and takes an interest in his welfare; that it is good to be alive.

Such a philosophy rests upon the evidence of the senses, upon common sense, and upon the facts of science. It bears the test of ability to inspire youth with the right attitudes toward life. It is a philosophy of optimism and progress, suited to be a guide in a sane and strenuous life. It can well serve, therefore, as a background of thought, belief, or affirmation upon which a science of education may rest, not in the

sense that it may be derived from these principles, but that it shall include in its teachings such an attitude toward reality as a whole.

REFERENCES.—8, 60, 116, 196, 284. See page 383.

## CHAPTER III

### BIOLOGICAL PSYCHOLOGY

HAVING found that certain principles of science and philosophy satisfy deep\* needs of thought and life, the business of a philosophy of education is not so much to subject them to searching doubt and criticism, and to follow out their implications with logical precision, as to carry them forward to a study of the growing child, in the most comprehensive manner possible. The exact limits of each science will not greatly interest it, but the aim will be to seek truth wherever it may be found. Its centre, it seems reasonable to assume, will be psychology, for it is most directly upon the mind of the child that we bring our efforts to bear.

The ideal of the new psychology, based upon the dictum, *No psychosis without neurosis*, has been to discover for each mental state and process an equivalent or correlate in the body or in nature. This is the main problem of physiological psychology, of psycho-physics, and of the experimental methods generally. The point of view is good, so far as it goes, but it is still a narrow conception of the province of a science of mind. A far more fruitful method is opened to it by the principle introduced into biology

by Charles Darwin. Not only does it reveal a programme of more important and more far-reaching work than the study in the laboratory, but it suggests the means of a truer interpretation of all the facts. Such a science is entitled to the name of *Biological Philosophy*; for it extends its problems from the study of the merely individual mental processes of the adult, to the study of all mind, past, present, and future, in whatever form it appears; and its interpretation passes from the physiological explanation of mental states to the biological.

The fundamental fact and principle of this biological philosophy is that mind and body have evolved together in the race, and have developed together in the individual, in one continuous process. Not only, therefore, must all mental facts be understood in terms of, or with reference to, physical facts, but the individual, both in his mental and physical aspects, must be studied in relation to the whole history of the race. This evolutionary principle must be applied to all problems of psychology, until we have a complete natural history of the mind. Psychology must deal with facts, and not, as in the past, with ultimate principles. Its field is the study of all expressions of mind, all actions and institutions that are its products, including the instincts of animals, myths, customs and beliefs of primitive man, reflex and automatic movements, disease and abnormalities.

This new method and problem in psychology, taken in its widest sense, may be called the genetic. It aims to explain whatever process or state it observes by

tracing it, in all its connections, to its origin. To understand any trait of the human mind, for example, it is necessary to discover not only the relation of the mental process to the changes in the nervous system upon which it depends, and to analyse the process into its elements, but we must know the genesis of the trait in the individual, both in its physical and its mental manifestations and connections, and also the whole history of it as it appears in the race. This is an ideal not to be attained in any problem at the present time, but it must constantly be striven toward in every investigation of the facts of human life. The genetic method has, therefore, two main branches: the study of mind in its development in the child, and the study of mind in its evolution in the race. No problem can be regarded as deeply understood that does not take into account both these aspects.

This is precisely the kind of psychology that is of most interest to a science of education, which of necessity is concerned with the facts about childhood and their interpretation or meaning. It is astonishing that not until our own day has psychology undertaken to study childhood, since in the child <sup>21</sup> the fundamental traits of human life may be observed, in a simple and natural form. Here we may study in the spirit in which the naturalist investigates, applying similar methods to securing facts, and deriving principles from them inductively. New as this genetic method is, it is so fruitful that it has already accomplished much both for science and the practical life. It has helped to solve problems of philosophy and



psychology; has contributed to the science of religion some of the most important principles; and has suggested the outlines of a whole theory of life, truly in accord with the doctrines of modern science.

There are many ways of applying the methods of genetic study, in detail, to the problems of life, and even within the limited field of child-study there are several distinct types of investigation. Childhood may be studied stage by stage; one child may be studied in detail; or a special topic may be studied, collecting facts from many individuals. Some of the work is experimental; some is purely observational. One method, that of the syllabus, or questionnaire, particularly represents the spirit of the genetic method. By this means data can be collected from a great number of individuals, of different ages, enabling the investigator to form a picture, as it were, of the whole course of development of a trait, in all its varieties. This is strikingly in contrast with the older introspective or analytic methods, which tried to analyse a mental state or process as it appeared in the mind of one individual. This method of the syllabus has already been applied to a great number of topics, including problems of the feelings, language, social activity, religious life, and many others.

Regarded as the study of mind in all its manifestations and expressions, psychology must be looked upon as at the very beginning, and not the end, of its career. Not only have many of its problems not been solved, but a great number have not even been

discovered. The work lies before it of recording and explaining all mental facts, both in the individual and in the race, and of recording the history of every mental trait. Such an outlook precludes entirely the possibility of final conclusions about most problems, for only a very small part of the necessary data are as yet gathered, and each year may witness the upsetting of our most cherished convictions. Psychology must be consistently inductive like the other natural sciences. It must collect facts and base its conclusions upon them. Especially all such problems as the nature of mind and matter must be left wide open. Both the physical and mental manifestations of reality must be studied in their relations to one another. We must assume, as a working hypothesis, that no mental state or process is without its concomitant physical state or process; but that the two are identical, or if not, how one acts upon the other, we cannot know. Faith in science directs us to believe that sometime these two series will be shown to be aspects of a higher substance or principle, in which both law and freedom, mind and matter, immanence and transcendence will lose their partial aspects and will appear as a whole. But for the present we must be content to work without conclusions. We must lay these questions aside, or adopt any hypothesis that leaves the mind free for enquiry. The psychologist must ever push out into new regions of fact, and not merely try to establish principles from the comparatively few facts we already have. Only in such a way can the sciences of human life become

broad enough to support the practical activities which must rest upon them — the greatest of which is education.

See references at end of Chapter IV.

## CHAPTER IV

### THE FUNDAMENTAL PRINCIPLES OF GENETIC PSYCHOLOGY

GENETIC psychology assumes as an ultimate fact, and as a background for all its principles, an endless process of time, stretching out into an infinitely remote past and pointing toward an infinitely remote future. Every thing, and every event, must be regarded as the completion of an infinitely long process of development, in terms of which it can be explained; and also as germinal of a future, of which it is in turn to be the cause or genetic origin. Development and change are continuous and unbroken. Nothing is stationary, and man himself is in a stage of active evolution toward a higher form. Although his body seems, in many ways, to have reached its highest point of development, his mind continues to advance with ever greater acceleration. Changes in the industrial, the social, the moral, and the religious life were never so great as now. Precisely what the final result of this evolution of man is to produce in the universe, or even in what direction it is tending, it is quite impossible for us to know, but there is every indication that man has not reached his final form, nor the perfection of which he is capable: that the best things

in his history have not yet happened. Nor can we know with any greater certainty what the future has in store for other races than our own, nor for animal forms, some of which may eventually go far beyond the present stage of the highest races of mankind, and take the place of the dominant forms of life, when these higher types shall have become decadent.

Such is the conception of man that results from the work of Darwin. His mind is to be regarded as quite as much an offspring of animal life as is his body. The same principles may be applied to both, and both must be investigated by similar inductive methods. We can understand the mind only in its development; we shall know it completely only when we can describe all its stages from the amoeba up. The emotions are best studied in their outward expression; will in behaviour; intelligence in sagacity, and not by the methods of the laboratory.

What kind of a mind it is which thus presents itself for study, we can now see in a provisional way. It must not be regarded as a fixed, definite, and static thing, which we can fully understand by looking into its processes by introspection; for only the smallest part of its powers and meanings can thus be brought to light. The mind stretches far beyond the limited experiences of the individual. It contains within itself all the past and all the future. It has grown up in the race, step by step, and has passed through stages as different from its present form as we can possibly conceive. It is so vastly complex that it is never twice alike in the same individual, nor are ever

two minds the same. It is a product of millions of years of struggle. Its long experiences with light and darkness, and with heat and cold, have established many of its rhythms. A long apprenticeship in aquatic and arboreal life has left deep and indelible marks. Sky, wind, storm, flowers, animals, ancient industries and occupations, have directed its fears and affections, and have made the emotions what they now are. It has been shocked and moulded into its present form by labour and suffering, and it shows in every function the marks of the process through which it has passed. Although it is by far the most wonderful work of nature it is still very imperfect, full of scars and wounds, incompletely co-ordinated, and but poorly controlled; in many ways ill-adapted to the practical situations of life. In it barbaric and animal impulses are still felt. Its old forms appear at every turn; and every trait of mind, as well as of body, is full of indications of its origin. So close, indeed, is the past to the present in all we think and feel, that without referring to what has gone before in the race, the human mind, as we know it, is utterly unintelligible and mysterious; while many, if not most, of its mysteries become clear, when the mind is studied with reference to its past.

This point of view is essential for any introduction into the science of psychology. Only thus may one grasp the significance of mind in the world, and be prepared to interpret the common facts of everyday life. One must see that only by studying mind objectively, in its racial manifestations, and in many

individuals, can any conception of its range, depth, and meaning be attained. An individual mind is but an infinitesimal fragment and expression of all the soul life in the world. The individual is imperfect, and limited in every way, hemmed in on every side, while the whole mind or soul is marvellously complex, efficient, and orderly. Mind must be thought of as much larger and richer than its expression in consciousness, either in the individual, or in the race. In fact its highest powers are those which spring from the depths of the unconscious, and go back to the earliest beginnings of the race. Consciousness does not reveal these powers. They lie below its threshold. They are expressed neither in conscious will nor in intellect. In these deepest regions of the mind both the past and the future are hidden. The impulses which move consciousness from behind the scenes, so to say, are indeed more truly parts of the soul life than are the conscious thoughts, because they direct the most important interests of life. Mind, therefore, may be thought of as akin to, or consisting of, all that force in living things that moves on to ever more complete form: a force which we can never find by introspection, for though in its essence purposeful, it is not contained in any consciousness. This force is the will to live, the moving force in all nature. In its activities all life is involved. Its movement is uninterrupted and continuous. Man, animals, plants, and perhaps all inanimate things participate in its progress. Thus life in all its forms, and mind itself, are indistinguishable in their essence, and though no

present theory can completely explain the manner in which development has taken place, nor how mind and life originated in the world, we can assume with all confidence that all growth is alike in nature. We must think of it as different in its manifestations here and there, but as always essentially the same. Whatever the mind or soul which we recognise in introspection may be, we must regard it as connected with all other soul life in the world. We must see that it is not only susceptible to all present influences, and responsive to every force in nature, but that it re-echoes with the reverberations from an immeasurable past, and is related in the most intimate ways to all mind, past, present, and future. The soul of the individual is no more a thing in itself, a unity, than is his body. It reflects the growth, not only of the brain, but of the whole body, and is connected in the most intricate ways, with all its states and changes. It has many powers, some more conscious, some less; some progressing, some decaying. It, like the body, has sex; it is changeable and relative, a moving equilibrium of many parts, quite like the physical body in these respects. In it, from generation to generation, parts now become central, and are now submerged; what was conscious becomes instinctive or reflex. Many parts, once rudimentary, have now become dominant, and will in time, in their turn, become rudimentary or disappear, or be relegated to the region of the unconscious. From this we can see that mind is a changing and passing thing, and that soul life is continually lost to the world. Unnumbered types of mind



have passed away in producing those which remain, and we can form but the dimmest conception of how the world must have appeared to most of the creatures which have inhabited it. Many of these lost species are in our own pedigree. We inherit the stored results of their experience, and can perceive faintly what their lives must have been. In our own consciousness there are abundant traces of the far-away past. Our slightest experiences may often be explained as the remnant of some great psychosis that has been lost; our fleeting fancies often afford us glimpses of life remote from our own. In all our higher thoughts and feelings the simpler and earlier is somehow represented. Much lies dormant in us, that is brought out only in unusual circumstances. We hold the inheritance of many ancestors, of many types of life which perhaps have taken out of the world the potency and promise of higher mental development than our own; and whose choicest possessions we have relegated to the unconscious and unused regions of mind.

The evidence for the truth of such a conception of the mind and body of man is now so great, and so corroborative one part to another, that it is hardly possible to doubt it. Both mind and body are full of observable traces of their ancient origin, and although the offered explanation at any one point may seem doubtfully true, all together forms a chain of evidence that cannot be refuted. Physical evolution is now so well established that it needs no further proof. The body of man teems with proofs of his

connection with all other animal life. Especially in the embryonic stage is the evidence clear. The gill-slits, which are then produced, are in themselves almost complete proof of the hypothesis of evolution. Yet one need not depend upon a single witness. Other organs, and both external and internal structure of the body, offer quite as strong testimony. Indeed there can be no reasonable explanation of the human body that does not assume as a first principle the relation of it, by evolution of the whole, to every other type of animal life; which does not assert that it contains relics of a past state, in which it differed greatly from its present form, and was similar, at many stages, to forms of animal life which still exist. Precisely the course man has taken in reaching his present station we may never know, but the fact that it was a long struggle upward from the most primitive forms, we may place at the head of our genetic science.

The evidence that the mind as well as the body retains vestiges of the past is also now beyond dispute, though the evidence for mental evolution, from the very nature of mental states, is often less incisive than for the physical. Rudimentary psychoses are as evident as rudimentary organs. The study of nervous diseases, such as epilepsy, brings to light the close connection between abnormality of mind and body, and the past. Human courtship, care of the young, crime, many phenomena of the hypnotic and hypnoid states, fears, subconscious habits, demand for their explanation an evolutionary theory. Many actions of the infant can be explained in no other way. Indeed the

evidence is so strong at every point that we must accept the conclusion that the mind has evolved like the body, and that it still bears evidences of it in its present functions. Many traits of the human mind cannot be explained in any other way than as useful in the past, under conditions of life, and in bodily structures, that do not now exist. And indeed if we may be certain that man has evolved at all, and if his body may be seen to contain traces of the past, we should fully expect the mind to share in the possession of these vestiges. There is no escape from this view, and we must accept the full consequences of it. We must see that mind and body alike are teeming with the traces of ancient life, both human and pre-human, knowledge of which is of the greatest importance for a comprehension of the most common facts of daily life; and for education, and all other fields of conscious evolution.

Thus far we have considered the mind and body with respect to their nature and contents. It is quite as important to understand them in what may be called their dynamic aspects, with reference to their development, both in the individual and the race, and to the relation of the two series, the ontogenetic and the phylogenetic, to one another. The discovery of the laws of development is one of the chief aims of genetic science, and in our practical science of man, we are most of all concerned with such principles. The most general formulation of all the facts of development that we yet possess is contained in the *law of recapitulation*. This law declares that the in-

dividual, in his development, passes through stages similar to those through which the race has passed, and in the same order; that the human individual of the higher races, for example, in the brief period from the earliest moment of life to maturity, passes through or represents all the stages of life, through which the race has passed from that of the single-celled animal to that of present adult civilised man. The recapitulatory process is sometimes obscured; stages overlap, or become dissociated; the individual must sometimes recount thousands of years of his racial history in a day or year; environment complicates and modifies the process in ways still quite unknown; but in a general way the individual may be said to recapitulate the race. Functions and organs, both physical and mental—interests, habits, physical traits and forms—develop, flourish for a time, and then disappear, or are taken up into higher stages and are transformed, the lower seeming to serve as a stimulus for the next higher stage. The recapitulatory stages are best marked in the earliest periods of the embryonic life, when stages as wholes may be said to correspond with some fidelity to racial steps. In the later periods, they are more likely to appear as fragments, or as indications, in this or that function, of racial periods. In the embryonic stage, organs unquestionably connected with primitive life in the sea develop for a time, and are then transformed. The gill-slits may be mentioned as an example. Without this stage many of the higher organs would not appear, for out of the gill-slits important organs grow. From them

arises the thymus gland ; the mouth is probably formed by a union of one pair of them, the olfactory organs from another pair ; the middle and outer parts of the ear from other parts. In early infancy there are traces of a stage of arboreal life, overlaid by later traits. The grasping movements of the infant, habits of climbing, and many physical traits, indicate that the infant is then passing through a stage of life, not unlike that still lived by our nearest relatives among the simians, and which exists in the child *because* our ancestors passed through such a stage. Later, the interests and habits of the child are distinctly akin to those of primitive and savage man. Both in the life of feeling and of the intellect the child and the savage have much in common. Play shows the marks of racial steps ; for the child, quite of his own initiative, reproduces, in his free activities, many of the habits and traits of earlier stages of life than that into which he is born. The theory that play is practice for future occupation is, therefore, but a partial view. Play exploits the stages through which man has passed, and, in the play life of the child, instincts ripen and decay, and are superseded by others, in an order quite unintelligible, unless the law of recapitulation be invoked to explain it.

Even in the later periods of childhood the racial steps are by no means entirely broken up nor obliterated. The period from eight to twelve clearly suggests a well-defined concomitant stage in racial development. This period in the life of the child is, as it were, a culmination of one stage of development. The

child is then relatively well established in a habit of life which serves his needs admirably, and in which he appears well adjusted to his environment in every way. He suggests now a period in which the race was for a long time stable, living in a warm climate, having simple habits; when life was so simple and easy that the young matured early, and were able to leave the parental care and to shift for themselves.

Following the period of stability, both in the individual and in the race, is a very different stage. A new layer has been added, represented in the individual by adolescence, and in the race by all the higher stages of civilisation. In the individual, adolescence is marked by profound upheaval of all the elements of the mental life, by the sudden influx of new interests, deepened feelings, and a wider outlook upon life. New relations among the mental elements are established, and the mind seems to find a new centre.

No one can maintain, however, that the parallel between the individual and the race is as precise and definite as the law of recapitulation would of itself demand. Other laws must be at work according to which the mode of development of the individual is modified. The period of growth has gradually lengthened in the human species, so that, in succeeding generations, the child tends to pass through longer and longer periods during which he is plastic to the influence of his environment, and to his own nascent powers. His progress in one direction and another is now accelerated, now retarded. Many functions which, in the race, have followed physical maturity,

now appear before the onset of puberty. At the time of adolescence, the child becomes especially susceptible to the effects of his environment, and now, while all the forces of civilisation are brought to bear upon him, he is carried for a time beyond the point of the present stage of civilisation, and becomes the promise of what the race may be in the future, when it shall be able to hold and organise the advance that adolescence points out. Growth, from this plastic period of adolescence on to maturity, is thus in a sense a fall from a higher state, for of many promises of the individual but few at the best can be fulfilled. Habit becomes hardened, interests are specialised and narrowed. This is the critical point, both for the individual and the race. If our species ever degenerate it will not be through lack of knowledge and culture, nor from relaxation of industries, but because of the progressive failure of youth to develop normally to maximal maturity.

From this point of view the development of the child becomes one of the greatest scientific problems. We can say that childhood, left to itself, tends to recapitulate the race. It is largely the traditions of the adult, and the influence of environment, and the ideals of the society into which the child is born which suppress, modify and obliterate his inheritance, and obscure the recapitulatory steps.

REFERENCES.—60, 76, 78, 92, 102, 105, 106, 109, 110, 114, 117, 123, 127, 143, 188, 196, 208, 264, 275, 288.

## CHAPTER V

### INSTINCTS AND FEELINGS

PSYCHOLOGY has hitherto given most attention to the so-called higher or intellectual processes, and has neglected the instincts and feelings, which, if the present point of view be correct, are vastly more important and fundamental. These elemental, racial, and hereditary parts of the mind are not only far greater in volume than thought, but their power in determining conduct outweighs the reason many fold. The feelings and instincts are the deepest parts of our nature, because they are racial. The study of them should come first in psychology, and should have the highest place. The intellect is more an individual problem, for it represents acquirement through environment.

To attempt to define the feelings, to analyse them into their elements, or to classify them, or even to assign to them their physiological correlates, is less important, and less fruitful in every way than to study their origin and development and manifold manifestations throughout animal life. They are immediately known to us, and no elaborate experimental methods are necessary to enable us to detect them. The more elemental the feeling, the more nearly universal and readily understood, the more important is its func-



tion, and the greater the need of studying it in all its aspects. The most fruitful method of all, in the study of the feelings, is to trace their development in the young child. Data must be gathered from great numbers of individuals, under different conditions of life, and finally all the evidence must be interpreted with reference to the appearance of the trait in question in all other types of life, animal and human, tracing it as far back in its history as possible, ascertaining what conditions in the environment have produced or perpetuated it.

One fact may be regarded as established at the beginning. No emotional trait can be entirely explained by the experience of the individual who possesses it. All the deepest feelings and habits are inheritances from a past, sometimes inconceivably remote. Our feelings to-day are what they are, because, in the mind, there are remnants of older forms of life. We feel as we do toward many objects of nature because our ancestors thus regarded them or acted toward them. We do not remember this ancient life as we remember our own past experiences, but it stirs in us in all our fundamental attitudes and feelings, adding a momentum of interest or feeling which cannot be explained by reference to anything the individual has learned. We must assume that the effects of environment and manner of life, during the millions of years our progenitors have lived upon the earth, have left traces in the nervous system which are inherited from generation to generation; which have accumulated, have become modified, utilised, or partly obliterated

in many ways; and which still appear, varying in degree and form, in each new individual. Whatever has affected the race deeply, whatever has been for a long time feared, or contended with, must thus have left its marks and have influenced inheritance. We must suppose that the deepest things in our own present experiences with nature, and in our social life, will in the same way reverberate in other races which shall be our descendants, perhaps millions of years to come. The evidence for such conclusions is now abundant, for in all studies of emotion and instinct that have been made by genetic and objective methods many facts have been brought to light, showing that the individual is dominated in his behaviour by the racial traits, often to such an extent that he is but poorly adjusted to life in the present environment. He feels as his forebears felt in similar situations, millions of years ago — situations which now demand quite different attitudes and reactions. Some of this evidence will be mentioned below when the stages of childhood are described in greater detail, and when special topics of emotion, instinct, habit, and interest are discussed.

A truly genetic psychology of feeling begins of necessity with the most primitive of all instincts and feelings, hunger and the instincts of food getting, for these are common to all species of life, past and present. This constitutes the lowest stratum of the feeling life, and with the sexual impulse, the other great fundamental expression of the will to live, is the basis of life, and in a sense the foundation of all the higher

powers and interests. If we could understand completely the part that hunger has played in the development of mind and body, we should know a great part of biology and psychology. Food is the first object of desire, and all fins, legs, wings, and tails were developed either to get food or to escape being the food of others. Animals hibernate and migrate, according to the food supply. Pleasure is primarily the pleasure of digestion, and many of our acts such as laughter, are best explained as parts of the function of digestion, having had an origin in the movements of eating and the disposal of food in the body; and we can quite reasonably believe that pain originated in the world in the discomfort of hunger. Intelligence grew out of the effort to procure food, and even far into man's history the need of securing and storing food during periods of hardship has been one of the greatest incentives to mental growth. Questions of nutrition underlie many of the problems of all stages of mental life. Many diseases must be studied as primarily defects in nutrition. We must suppose that the organs of the body compete for their nutriment, and that within the organism a struggle for existence among the parts goes on, quite like the struggle of individuals with one another. In a sense, every organ of the body is a digestive organ, and even the brain itself performs a digestive function. What we call hunger is the sum of the unconscious desires of every cell for the food it needs.

**The Sexual Instinct.**— Without some knowledge of the sexual life it is impossible to understand fully many

of the higher instincts and feelings, for far more than is yet generally recognised, the higher sentiments are an off-shoot or irradiation of the more fundamental passion. Normally the sexual life comes to maturity at adolescence in a development of structure and function, and in the birth of desire. In its deepest significance this means that the individual now enters a new life in which interest in the future generation must take precedence over interest in self. Connected with this primary sexual impulse and function there are a great number of secondary functions and mental traits, which have grown out of the sexual life of the race, and which now make up the raw material of interest, enthusiasm, and ideals of life. The individual repeats, we say, the history of the race. A period of strong feeling, of a predominance of impulse and unorganised mental life, precedes a period of adjustment and control, and a time supervenes, as it did in the race, in which there is danger of excess, abnormality, and crime. Out of this chaos the higher life takes form, and especially the religious life stands in close relation to the sexual upheaval of early adolescence.

But the parallelism of the race and the individual in the development of the sexual life and its irradiations has been greatly complicated by the increasing delay in maturity of the offspring in higher species of animals, and in man. We have said that functions which in the race have followed puberty and have depended upon the sexual maturity of the organism for their appearance, or upon interests growing out of adult

life, now are produced before physical maturity, and without its incitements. These interests, which the child has before maturity, serve the purpose of breaking the force of the new impulses when they suddenly appear, as a result of the ripening sexual functions, and help to irradiate this impulse out, as it were, into broader channels. The child thus practises many adult activities, and entertains adult ideals connected originally with the sexual life, and its related interests, but now appearing, either instinctively without the need of sexual maturity, or else conveyed directly to the child through his environment.

**Laughter and Humour.**—Quite as perplexing to the psychologist of the introspective type, and more difficult to explain on any other theory than the evolutionary, are such common emotional acts as laughing and crying, the response to tickle, blushing, and many peculiar stirrings of feeling, which now seem to have no use, and to be but remnants, perhaps, of older, more developed psychoses, once useful in the race. How old many of these feelings are can be only a matter of conjecture, but that they belong to an immemorial past, to a time before man in his present form existed at all; and that they may even antedate the beginning of skeletal and muscular structures, and may go back to a time when movement and stimulus radiated over the whole body, and when no co-ordinating nervous system had yet been produced — all these are possible and even probable interpretations of many of our most familiar states of mind.

One problem of feeling, in which such interpreta-

tions as those just suggested appear to be warranted, is that of tickle-feeling, the strange sensitiveness to slight tactual impression which extends all over the body. Both physical and mental reactions to these slight contacts are profound, and reverse the law of Weber, according to which sensation increases in definite proportion with the increase of the stimulus; for, in tickle, the slighter the contact the more convulsive the movement, and the more intense the feeling. The most satisfactory explanation of this remarkable trait is that in these sensations we have a relic of primordial surface feelings; that they represent the very oldest stratum of psychic life, in the period before the somatic elements had been sharply differentiated from the reproductive, and had thus become devitalised. In this touch feeling we may, perhaps, experience something of the keenness with which primitive organisms felt the world about them, and the undifferentiated quality of the movement with which they responded. Other elements in the tickle sense we may suppose belong to later stages, for the distribution of it over the body clearly indicates that parts vulnerable in combat have become sensitised, serving the very practical purpose of protecting the organism in times of danger — which again reveals to us the severity of the struggle through which the race has passed.

The physical expressions of pleasure or humour in laughter must be explained in somewhat similar ways. These movements, so utterly inexplicable, so strange and even uncanny, when calmly examined, become in

part at least intelligible if we understand that in such acts the body is performing movements ages old, and once connected in a practical way with the states of mind (or similar states) which they now express. In laughter we may assume that body and mind pass backward innumerable ages in their history, and take up again the use of fragments of functions which remain concealed from ordinary experience and effort. In laughter, as has been intimated before, old psychoses and neuroses connected with primordial skin sensations are, it is likely, brought to the surface, and old movements which are best explained as once connected with the processes of eating and digestion. So, in a sense, a laugh means, "that is good enough to eat," and the movements of the laugh are movements that were once a part of the process of devouring. Thus would be explained the open mouth, and the rhythmic and convulsive movements, of this remarkable and mysterious act.

If these facts of every-day life are thus correctly interpreted, we should expect that in studying the higher emotions connected with wit and humour, one must constantly refer back to the lower physiological states in which they are expressed. When these higher forms of pleasure are studied in the child and even in the adult they are found to retain unmistakably, even in their most intellectualised form, the traits of their lowly forebears. Wit, in many essential characteristics is similar in nature to the primitive shock of the minimal touch, and the laugh from a sense of humour is much the same series of physiological events

as are found in the convulsive movements produced by minimal contact upon the skin. The same qualities of suddenness and light touch are found in it. Wit is a surprise that touches the mind lightly in an unexpected place, and evokes a large mass of uncontrolled mental reaction, stimulating, perhaps, the rudimentary and unused, and uncontrolled mental elements, that are not knit up into the ordinary currents of thought.

The causes of laughter in childhood show interesting evidences of inherited reactions. Very striking is the effect of the actions of animals and especially their cries, or any imitation of them on the part of adults, in causing laughter and merriment in children. The profound influences of these things upon the child's mind, and the peculiar infectiousness of the reactions, may be explained by the supposition that in the growing mind of the child there are a great variety of rudimentary interests and possibilities of function, akin to those of animal life. We are potentially animals in all our developmental stages, and the spontaneous manner in which these old functions sometimes act, and the ease with which they respond to the slightest touch, accounts for the great pleasure which they produce. Broad waves of action are touched off in the child's mind by these natural stimuli; old brain tracts are opened up, and old pleasure mechanisms are set off.

Other habits of laughter in the child yield to similar explanations. The laughter at the slightest suggestion of the forbidden or the vulgar is the same. The mind is full of old underground paths, submerged physi-



ological mechanisms, some connected with the sexual life, which are set off without voluntary act, and in opposition to will, and serve as a mild shock to the whole mental structure. That the laughter reactions develop and broaden the rudimentary and potential activities of the mind, and are both hygienic and educative, there can be little doubt. Those stimuli which reach the laughter actions touch the most spontaneous areas of the mind, and it is here, more perhaps than at any other point, we can see clearly that the individual contains the racial experience in an undeveloped form. The chief psychological point to be observed in the explanation of all such acts as laughter is that the old physiological reaction is the basis of the higher development. The higher mental state takes up, or is connected with, the lower and transforms it or utilises it in a larger whole. The pleasures and pains, even of the highest moral and religious moods, are thus to be regarded as superstructures built upon older formations and utilising them. Without the old the new would have no depth nor force.

**Play.**—Next to hunger and sex, and the primitive physiological reactions such as we find in laughter and crying, play may be regarded as the most general and most racial of activities. Play, considered both from the scientific and the practical standpoints, is one of the most important problems of psychology. Play is almost the whole life of the child, and everything the child does may be considered with reference to the play motive that actuates him at all times. In his plays and games the child repeats racial history. All such

plays as teasing, combat, and collecting may best be explained as survivals of racial habit, and without this interpretation they must remain unexplained, or appear as haphazard and without meaning. In such plays the child is using motor co-ordinations bequeathed to him from a remote past. These now detached and fragmentary habits were once serious adjustments to practical situations, the issue of which, whether in life or death, depended upon the degree of perfection of just these abilities. The view that play is merely practice for the serious business of life is thus seen to be partial and but incompletely carried out. Play practises not only what is coming, but also what has long since past. It is often practical only in the sense that by it one step after another in the stages of life is kept open and preparatory for the next higher stage. Play exercises decadent or rudimentary organs which will never come to maturity at all, but which will have a short period of activity, will serve to stimulate other and more lasting functions, and will then die out, or remain mere traces in the mental life. They live themselves out in a play stage, to be sure, yet they perform an all-important function, for without the partial development of these rudiments the next higher stages are certain to be imperfect. In play, every movement is alive with heredity. We rehearse in it the lives of our ancestors. We live over again their practical deeds. The elements and combinations oldest in the race come first; those that are later in the race follow, though not without many deviations from the phyletic order, which we do not as yet fully under-

stand. In a general way, however, the great fundamental racial movements precede, and are followed by the finer, more co-ordinated movements, which, like a higher geologic stratum, have been deposited upon the older formation. This is why the heart of youth so goes out to play. In it he seems to remember the life of the race, and to revert to an age before work began. Play is not mere excess of motor activity. It involves all the interests of the child. It is the centre of his whole existence.

**Fears.**— Fear is a primitive instinct or emotion, and the methods of studying it are typical of all investigations of the feelings. Fear is a much greater emotion, more far-reaching in its effects, and more manifold in its expression, than can be discovered by the study of any one individual. No one has ever had all the fears to which the race is subject, nor experienced all its degrees and manners of expressions, nor do all fears appear at one time of life. It changes its objects from one period to another. Much of the fear psychosis cannot be studied at all in the adult, for it has passed forever from his consciousness. And if we have no memory nor conception of our early fears, how much less can we discover, by introspection, the nature of the fears of other races or species. Only by exploring childhood, by studying the fears of many individuals, and taking note of its physical manifestations in animals, can we form any adequate conception of what fear is like.

Statistics showing the order of frequency of fears in many persons reveal the fact that, on the whole,

human fears are not practical; they do not protect against the most pressing dangers of our present life, but are better adjusted to an older order, in which the danger from natural objects, and from unfriendly creatures was far greater than now. We do not fear that which is most dangerous to life, and many people harbour life-long dread of objects which, in our protected environment, are practically harmless. Fear of fire, of lightning, of storm, of reptiles and insects, of darkness, are now out of all proportion to the dangers from these sources; yet the dread of these things is among the strongest, the most frequent, and the most persistent of human fears.

That fear is learned during the lifetime of the individual or is merely imitative, can hardly be believed in the face of evidence such as has been mentioned. In fact there is no rational explanation of fears which does not take into account racial experience. We must assume for many of these fears an antiquity far beyond the beginning of human life, going back to the earliest experiences of shock in primitive beings from which man has sprung. The evidence for the correctness of this view does not rest upon the prevalence, in the human mind, of any one fear which can thus with certainty be declared ancestral, but upon the nature of the whole fear habit of man, and especially upon the fact that in the child fears at different stages appear to fit conditions of life of the race which these stages represent. Fears show the same tendencies as do physical traits which we know to be ancestral, to obey the laws of development,

atrophy, and disappearance which the theory of recapitulation demands.

If this point of view in interpreting fears be in general correct much becomes plain that would otherwise be hidden. We should infer that in our fears of celestial objects, and in our profound agitation at wind and storm we go back to a time when nature was of far more importance to life than it is now. Fears of animals, of fur and big eyes, and of noises suggest the old fear of enemies, and go back to a time, when not to fear these things, now for the most part in no way threatening, meant destruction. Fears, still older, antedating the possession of definite motor structures may be traced in such states as blushing and in other changes in the vaso-motor system which accompany states of displeasure, and which are not subject to control by voluntary effort. However speculative such an interpretation of any one fear may be, all the facts taken together can hardly leave room for doubt that the long struggle on the part of the ancestors of man with the forces of nature has left marks in the mind, which, as we should expect, are experienced more vividly in the early stages of childhood which represent or recapitulate the periods of man's emergence from animal life.

Fear has been a necessary part of man's equipment for progress, and it still performs a useful function. The lower forms of fear are necessary in order to stimulate interest and to lead the mind to higher efforts. Fear is the root of many of our strongest intellectual strivings now, just as it has always been

one of the chief spurs to the acquisition of knowledge. Science itself is in large part the creation of fear, and it is due to fear-inspired science that many of the objects and forces which were once most feared now most serve us. The individual passes upward through stages of sensitiveness to fear of one after another aspect of his environment. These stages are normal and to omit them entirely would be as much a calamity as it would be to linger in them too long, or to retain permanently that which is always passed through and overcome when heredity is sound.

**Anger.**—What has been said about the methods of studying fear, is true also of anger and of other emotions. Psychology has hitherto made but little progress in the study of the emotions because it has failed to come in touch with a sufficiently broad area of concrete facts of human nature. The same general conclusion is forced upon the mind by the study of the facts about anger, as were established in the case of fear. The physical expressions of anger, however refined or controlled they may be, are movements of combat common to man and animals. Anger is essentially a reaction of mind or body suited to a practical situation. Such effects as swallowing, and stimulation of saliva, frequently mentioned in accounts of anger, are connected with the acts of swallowing prey; while the more external manifestations, such as biting, pounding the head, butting, stamping, making faces, scratching, pinching, pulling, kicking, hugging, striking, and throwing are one and all movements that have obviously been useful, and can be shown, in every case,

to have had a significant history among the purposive acts of the ancestors of man. In our more repressed anger of civilised life these movements become suppressed and often remain as mere remnants, but their nature can hardly be mistaken, if they be observed closely.

Like fear, anger must not be regarded as entirely a defect in the mechanism of the human mind, however ill-adjusted it may seem to the practical business of life. Situations still occur that demand anger, rightly directed and expressed, and in its more refined form it is the motive of much useful activity. To have strong passion held in check creates the tension under which much of the best work of the world is done. Anger thus becomes a stored energy, useful if properly conserved, but wasteful and harmful if not controlled. And like fear, it performs useful functions in the periods of growth of the child by acting as an incitement to higher interests and the development of powers both of action and control.

**Pity.**— In pity, we have an example of a more complex emotion, yet subject to the same methods of enquiry, and to the same kind of interpretation as the more simple and more expressive passions. Pity arose later in the race than either anger or fear. Its most probable origin was in affection for the young, an explanation which receives support from the fact that it is much stronger in women than in men, forms a larger part of their emotional life, and to a much greater extent dominates their conduct. Figures show that we tend to pity most those who lack those things

that we ourselves feel we should most miss, if we were deprived of them. We do not, therefore, necessarily pity most those who need most, nor the lack of what is most needed; indeed pity very often goes out to those who do not suffer at all, and who are not deprived of anything they greatly desire or need. Young children, for example, pity most those who must be out in the dark or storm, suggesting the intense sensitiveness of the human mind to all that reminds it of the old struggle with the powers of nature. Older people pity most profoundly those who seem to be deprived of the elemental comforts, such as food, clothing, shelter, especially if the sufferer be a child. Anything that suggests, however slightly, hunger in the midst of plenty moves the adult mind to compassion. This deep responsiveness to the elemental needs of man, very strong even among savages, and peculiarly liable at adolescence to extravagant expression, indicates, on the recapitulation theory, a vast struggle of the race with cold, want, and hunger, in the effort to preserve and protect offspring. Next to deprivation of primitive needs, weakness, sickness, deformity and death most excite pity. Children most pity physical suffering or defects; and adults, to a greater extent, have compassion for mental suffering. A vast amount of pity is expended, both by children and adults, upon those who have no real distress, and sometimes when there is only enjoyment or satisfaction.

All the extravagances of this deep emotion, and its lack of practical expression and fitness to needs of



modern situations, can readily be explained by the principle of recapitulation. The severity of man's struggle has oversensitised his nature to hardship and struggle. The child repeats the history of the race, and therefore pities, not according to actual suffering, but in accord with his own fears and desires, which are primitive and unpractical. Even the adult's emotion is still but imperfectly adapted to the changed conditions of life that have been brought about by increased civilisation, science and invention.

Other feelings have been more or less completely studied in the same way, and in each case we find that the emotion can be fully explained only in the light of the history of the race, and that the higher and later feelings can be understood only by referring back to the more primary feelings upon which they are based. We cannot interpret the higher sentiments, such as we feel in our religious moods, without going back over the whole history of the individual and his ancestry. All the primary instincts, the whole range of attitudes toward nature and social environment, would need to be studied in order to understand religion. The emotion of fear, the feelings aroused by forest, storm, sky, and celestial bodies; by cloud, sea, wind; by animals and flowers — all play a part in the higher feelings, as well as in the intellectual life. Not only must the later emotion be interpreted by means of the earlier, but all our higher intellectual processes must be regarded as bound up inextricably with the most elementary reactions toward nature and persons. In fact nothing

in human life can be understood fully without studying the primitive feelings. All this can be made more clear by close study of one great group of human emotions, the religious feelings.

**Religious Instincts and Emotions.**—The religious life is the centre, we may say, of the higher life of the race since it emerged from a state of nature, and of the individual in all the years following puberty, during which the acquisition of civilisation is repeated. Just as in the preadolescent years the deepest interpretations of childhood are to be found by the study of the primary instincts and feelings, such as hunger, fear, and anger, now interest naturally turns to the moral and religious life.

The child passes through stages of religious growth in which he repeats the faith and worship of lower races—in which he is susceptible in turn to those forms of religious expression found in savagery, and in all the later steps of religious development in the race. He is at first a fetich worshipper, a worshipper of sacred stones, trees, animals, celestial bodies, rising only later to a grade of feeling and intelligence in which nature as a whole becomes an object of awe and worship. Like the race, the child passes, in his religious concepts, from the specific to the more general. He goes through stages, such as in the race are represented by the religions of Mohammed, Confucius and last of all, of Jesus. The natural culmination of this long process of growth is in some form of conversion, and with it initiation into the religious life of his elders. As manhood and old age super-

vene, still other changes take place in the religious life which bring it nearer to the religions of decadent or torpid civilisations, such as Buddhism and Brahmanism.

The religious life is essentially a problem of human psychology, but religion cannot be understood without reference to lower stages of the feelings. The higher emotion takes up the lower and utilises it or transforms it into a new product. The complex result is a new stage of development. The basis of all religious feeling must be sought in the physiological states and motor reactions accompanying the adjustment of all living forms to their environment. Above this is the more conscious experience of the race during millions of years, in which it contended with the forces of nature, and in which the emotional life was shaped by practical interests. Feelings and attitudes were thus fixed which were transmitted and which rise again in every new individual born to the race: feelings which form the deepest stratum of the religious life and of all other sentiments. The child is first, we say, a nature worshipper. He is profoundly influenced, both in thought and in feeling, by all of nature's forces and objects. Without such a basis, religion would have been impossible in the race; and, in the individual, the highest religious development cannot be reached except through a broad sympathy with nature. Religious faith is thus based upon a much surer foundation than the experience of the individual, for, in the child, the experiences of the whole race are stirring. The sense of something

deeper and more real in the things of nature than is revealed to the senses, is the beginning of a belief in the supernatural. This is the point at which all myth, folk-lore, and fairy tale are produced, both in the mind of child and of race. All this the child organises into a conception of a supernatural world, and thus he comes to dwell in two worlds: a world of physical matter and laws, of things seen and felt; and a world of spirits, of things imagined and believed. And this is the world of religious faith and belief.

It is upon such a natural soil of generic mental states that the special forms of the dogmatic religions subsist and grow, and were it not for the natural foundation the later religions would have no depth nor force. The child has been busy in all his years constructing a world beyond his limited range of physical vision; he has learned how to live everywhere, in all times; he has felt, though he knows nothing of its significance, the stirrings of the whole race within his consciousness — and he is prepared to interpret all this experience religiously, when he shall receive the impetus of the great moral interest that will come at adolescence. The early ideas and feelings will be interpreted by the youth, or for him, in religious terms, and they will form the truest part of his religion. Such a faith, which absorbs these deepest, most natural, and truest intuitions of the feelings, will at its best be far deeper than any mere intellectual formulation, or creed; more really a part of life; truer than all the proofs of reason.

Up to the time of adolescence the child has been

passing through stages corresponding to the racial periods before the final stages of civilised life are reached. This child life is predominantly individual; it is lived for the sake of itself, and not for any practical or ethical ideal. Thus childhood is pre-eminently selfish, trying to be and get all it can for itself. The child has been fed, sheltered, clothed, and taught; all the currents of his environment have tended toward him, rather than from him. During these years he has been passing from stage to stage, experiencing the broadening influences of the ancestral traits that flourish within his mind. In imagination he tends to expand, and to live the life of the race; in play he becomes all things, and takes all parts for his own supreme pleasure.

During these years the earlier and more remote forebears are being heard from, and the child is repeating their life in his own. But now, in adolescence, the nearer progenitors begin to be the predominant forces, and through all their influence runs the note of service to the race; of readjustment of the life of the individual; of subordination of the selfish will to live for pleasure, to the love of the future, and of offspring. The self can now no longer expand indefinitely and live its impersonal experience. It begins to specialise; it must now renounce and undertake those activities, and develop those powers and functions, which will end in producing a home for offspring; it must look forward now to contributing a share to the well-being of the race.

The all-inclusive life thus renounced will presently

reappear in the form of a hope for a life beyond this life, in another world in which the self, now deprived of its universal life, will find all its limitations compensated. But the immediate effect is conflict. The old impulses have carried the individual along in channels of interest that have become deep and fixed; he has become adjusted to a manner of life well suited to his stage of existence. But now new motives arise which strongly impel to habits of life quite at variance with his old existence, and so tumult and conflict begin. The new is recognised as the better way; the old seems imperfect and lacking in ideals, an estrangement from the right and good. If development be normal, the new and higher impulses soon predominate, and after a period of storm, stress, and conflict, a new adjustment gradually supervenes, in which new ideals prevail and the life becomes in far-reaching ways dedicated to service. All this, with a change of terms, may be described as religious conversion.

Conversion consists, psychologically, of a step from egoism to altruism, in which all the impulses are organised into a new and higher unity. As it appears in its religious form there are four stages, or four distinct moments in the experience: (1) A harmony within the old life of sin, or self-service. (2) Tension, and a sense of sin, error, loss, or decay. (3) The stage of losing a burden, the surrender of a perverse will. (4) A sense of being saved, of progress and growth toward a new and higher plane.

All these stages, however they may be defined, are moments in a change from the life of egoism, natural

and necessary to the first period of childhood, to the stage of maturity which now comes as a willingness of the individual to surrender and die for that which must henceforward be its greatest work, the service of the next generation. However broad and transformed this motive may become under the influence of moral and religious ideals, its base and centre are the parental instincts. All are born twice, once as individuals, and once as representatives of the interests of the race. The change from the one life to the other is deep and fundamental, including all departments of life. Religion fixes upon and formulates one aspect of this change, and calls it conversion. However sudden and unique the crisis of the religious experience may seem, normally there is a slow accumulation and change, extending through the adolescent period. The function of religion is to make the transformation radical and complete. Morality is the result; it is the life of service to the race.

However much emphasis may be put upon the religious nature of conversion, we must also take into account the change that it brings or implies in all departments of life, and its central place for all educational theory. Adolescent conversion is a natural and normal process, and it occurs whenever growth is perfect. It is the centre of all religion, and it is a re-establishment of a union with nature, from which the individual seems to himself to have been estranged. During this process the love for nature is greatly deepened, and there is a stronger belief in its spirituality and meaning. As an ethical movement, conversion is

a reunion of conduct with conscience ; as an intellectual change, it is a reunion of the mind with truth ; as feeling, it is the closing in once more of the highest love with its supreme object. The common element in all these aspects of conversion is the feeling of stress and estrangement, followed by an ecstatic closing in by faith or intuition, with that which is felt to be of the highest worth.

Conversion is not only the centre of the religious and biological change at adolescence, but it is also the clue to understanding the psychology of the higher stages of the history of the race. The conversion motive has played a great part in history, and everywhere, where civilisation has reached the higher levels, it is recognised. Among primitive peoples we find its beginnings in the form of initiatory rites which symbolise the entrance of the youth into manhood, and into the position of adult responsibility. This is the beginning of primitive education. It is a conscious effort to establish, in the mind of the youth, the best traditions of the race to which he belongs. Much in our own religion is symbolic of conversion and the adolescent change. The conquest of the world, through grief and pain, by the life of Jesus, is its greatest expression. The Cross symbolises the adolescent struggle, in which the old life of self and sin comes into sharp conflict with the new and higher motives of love and service. Here the movement is more than individual ; it is racial. Jesus initiated into the world, at a time when it had degenerated as a result of individualism, a new religion, and a new culture,



based upon love and self-surrender. He himself was an adolescent, and most of his disciples were youths. Every youth in becoming transformed into a normal adult thus passes through the stages through which Jesus led the world.

The story of the Cross and of the life of Jesus is thus the great religious masterpiece of the race, most truly representing its higher life. In lesser form the theme appears in many literatures. Dante is the story of adolescence; the Holy Grail, the Golden Fleece, Prometheus, Beowulf, and Hiawatha all tell the same tale. It is the central theme of religion, in its highest form. Through all the lower stages of racial religion the child of this higher civilisation passes, and the partial and false beliefs by way of which he reaches the truer and higher are necessary steps. When religion is true and deep, these beliefs are never merely cast aside or dropped, but the highest of all faiths retains the power of still carrying the germs of the old beliefs, and of sympathising with all that it has once loved. Religion is, therefore, to be regarded as a product of inner growth, a natural result of the stages of feeling through which man passes. Religion has its sanction within us, and all religious ceremonies are valuable only as they introduce the individual to powers within himself that are unexpressed. The higher truths of religion are revelations to a single self from the racial or cosmic self within him.

The religious life presents many other problems of psychology, and has both its normal and its abnormal

phases. Among the questions which are largely psychological are: prayer, obedience, sacrifice, chastity, asceticism, renunciation, creeds, dogmas, doctrines, worship, sacraments, ritual, ceremonies, priests, saints, miracles, the Sabbath, symbols, vows, oaths, sects — all these and all similar problems are open for psychological investigation, and upon psychology rests the task of restating them, and of reinterpreting all the facts. All such questions are problems of the higher emotions, and they must be studied with reference to the stages of development of the feelings, both in the race, and in the individual. Psychology must reform the ancient dogmas by showing the validity of the feeling elements upon which they rest. By this means the essentially true in religion will be reinterpreted in scientific terms, and all its practical problems will be brought into relation with questions of education and other needs of the present day.

REFERENCES.— 46, 112, 113, 115, 121, 132, 142, 148, 184, 192, 196, 202.

## CHAPTER VI

### THE INTELLECT

ALREADY, in discussing instinct and feeling, a clue has been given to the point of view from which the intellect must be studied, and indeed to its nature and the principles of its development. The feelings and instincts make up the greater and the deeper part of the mental life. They exist and act below the surface of consciousness as represented by the experience of the individual. They are the expression of the power of heredity in us, and are, therefore, older and more generic or racial than the more conscious knowledge functions, and all the content of consciousness acquired after birth. These feelings, natural responses and interests, as has already been shown, are the truest and most significant attitudes toward all the great problems of life; for the truth is best expressed by what we do or are impelled to do or to think when we act in accordance with our deepest instincts.

The problem of the psychology of the intellect is to discover the relation of the intellectual processes, both in the individual and in the race, to the life of feeling and movement which underlies them. Only in this way can the nature of thought and the principles

according to which mental training must be conducted be understood; or the validity of the higher reasoning processes judged. At every point we must return to the powers, physical and mental, which man has in common with animals, if we would understand the mind. Consciousness, though the latest, is not necessarily the highest, nor the most central, part of mind. In fact when the mind is most alert in doubt or thought, acting with strained and concentrated attention, it is farthest from that which is most genuinely mental, or the expression of soul life. The deepest thought is expressed in movement. Attention is thought interrupted on its way to action. The conscious life is unorganised and disjointed, while life is carried on by the deeper instincts and impulses in an even, uninterrupted flow. In thought, personality tends to become confused and superficial: in action we show ourselves as we truly are.

The conception of intellect as a superstructure built upon the far greater and more complex life of the unconscious explains many facts, and becomes the corner-stone of all intellect-training. This is the fact upon which the views of mind which posit a subliminal self or overself are based. It is the consciousness below the surface that dominates trance and all those other abnormal states in which the intellect appears sometimes to have supernatural powers. No other powers are at work than those seen in the ordinary working of the intellect, and there is no need of assuming anything except the racial forces which operate in everyone, and dominate the conscious life,

though it is natural that the deep interest which all take in the unconscious mind, and which shows the longing of the individual to live a more complete life, should often lead to the interpretation of the powers of the unconscious as supermundane.

The powers of the feelings and impulses upon the intellectual life are most directly evidenced in those states of mind we call faith and belief, and in the imagination. Our beliefs represent the life of the race, are larger and more potent than the experience of the individual, are the deciding factors in all the important situations of life, and are the powers behind the activities of imagination, dreams, and indeed all the workings of interest, attention, and apperception. The best example of the dominance of intellect by belief, and belief by the unconscious will is the myth: that great body of truth which has grown out of the feelings of the race, and has created a world, which, because it exists nowhere, is real everywhere. This process, however, is not exceptional, but is typical of the whole life of intellect, especially in the growing child. The growing mind repeats the racial myth-making in many ways. Thoughts are constantly being made from feelings, and the sense world and the fancy world are often inextricably mixed, in the child, as in the savage, and, indeed, in the most highly trained and intellectual adult. The mind is constantly busy interpreting feeling in terms of sense, and projecting the feeling into the practical life at every point. The child, especially, lives in two worlds at the same time; the world of sense, and the

world of fancy; the world of his own outer experience, and the world of the racial experiences, which well up within him. He thus lives everywhere, and at all times. Moreover his world contains not only the past but the future, for out of the feelings ideals are formed, and projected ahead of experience, forming a schema which guides and gathers experience, and moulds conduct and interest.

Truth, for the child, is thus only in part a matter of sense experience. He is constantly at work creating for himself, out of his own instincts, a body of truth, to use in his own self-development, in ways but little controlled by his environment. Later the same creative force of mind, if development be normal, will be at work shaping the forces of the moral and religious life. Instinct, rather than sense experience and critical thought, will still be the director of thought and the judge of the validity of it. This view of intellect is beginning to find its way into the psychological methods of studying belief, especially religious faith. It is seen that the evidence of feeling strikes deeper than historical criticism. Even in cases in which historical evidence and reflection cause doubt, truth may still remain founded upon feeling.

The intellect, though it may seem to be impractical, and to develop in ways that appear for the time to antagonise rather than help in the individual's effort to adjust himself to the demands of a practical life, will be found on closer scrutiny to be as lawful in its growth as any other function. In the principle of recapitulation will be discovered the explanation of its

vagaries, its persistent refusal to be bound by sense experiences and by the practical needs of the moment. The mind tends to pass through stages through which the mind of the race has gone. We do not actually remember the racial experience, in any such way as Plato and Wordsworth might be interpreted to think, but the mind passes through stages in which rudimentary and hitherto dormant functions, whether of brain or mind, spring into life. These nascent stirrings are the basis of interests. They form centres about which experiences cluster; they influence and colour all that the intellect for the time does; they establish belief and stimulate fancy, in ways already made plain. Some of these functions arise, never again to decline during the life of the individual; some are transitory, flourish for a time, and then decay — serving the purpose of arousing the next higher function, or having accumulated just such experiences as will later be utilised in the process of adaptation. The intellectual life is a growth, a series of stages in which there is always a partial adaptation to the practical needs of the individual, while all the time there is progress, by an apparently circuitous route, toward a permanent adjustment, in adult life, to the demands of the environment. Thought at each stage is in excess of the needs of that stage; but from the excess of thought and fancy the practical intellect is shaped by the needs of life; and the mind, which is inclined by nature to roam everywhere, to be free and to follow the instincts and racial feelings, is finally domesticated and harnessed to definite tasks.

We can now take up somewhat in detail the characterisation of the intellectual development of the child, comparing him with the race. A systematic account of the intellect might well begin with a study of the space consciousness, the background of all thought. We should find that its roots antedate clear consciousness, and are embedded in the primitive sensitive elements of the contractile tissues of the body, and that these qualities still provide, at the beginning of life, the materials or foundation upon which the higher senses of sight and touch proceed to construct a spacial order.

All the higher senses arise as gradually differentiated and specialised forms of touch. The sense of touch is, therefore, the archæological field of psychology. In it can be found the oldest stratum of the intellectual life. In the young infant the predominance of the senses of touch can still be noticed; and there are many other traces of archaic traits throughout the sensory life. There is not, as in the adult, a continuous or organised life of sense, but sensations arise in isolated areas. Each hand has at first a life separate from the other sensory areas. So, too, the mouth and the eyes. Finally these areas of sense are brought together. The mouth-hands, the hand-hands, and the eye-hands unite to form the objects that adults know as hands. So with other parts of the body. The self is gradually put together from sensations. Everything is at first experimental and fragmentary. The child investigates and feels, using first the mouth as an organ of search, as would be



expected if racial steps are followed, and later transfers the work of experimentation to the hands.

In the learning of language the child shows again the peculiar circuitous manner in which he develops. He never begins with the sounds that seem easiest to the adult, or the most elementary, but in a way all his own proceeds to acquire his language, by a process of learning and then apparently forgetting, quite at variance with the direct route that would seem to the adult most desirable and economical. It is evident that all the first steps in the development of language are prompted by inner impulse, quite independently of what the child hears. Later he uses the elements of language he has thus acquired by his own initiative, in imitating the combinations he hears, but in the first instance he produces all from his own native resources.

Habits and interests grow from within in the same way, some to flourish for a short time, and then to disappear, some to become permanent. All through the earlier years of childhood interests are being evolved, and by means of them the sensory materials that pour in are organised and controlled. The child, moreover, does not merely wait for his experience, but seeks it and selects it in ways entirely his own. The intense ear-hunger and eye-hunger of these early years is the chief means of education of his mind, and for a long time the craving for sensory experience is the most marked characteristic of the intellect. Especially is there great hunger for experience of natural objects, so that all out-of-doors is none too large

to supply the child with materials for his mind-building. This is one reason why the country is the normal environment for the young child. There the spontaneous interest in objects can be fully satisfied, and the mind receives the nourishment it most craves. It can safely be said that nine-tenths of the child's thinking is about either people or objects in nature. People furnish him his practical experience, set the limits for his conduct. Objects stimulate his imagination and give him the materials out of which he builds his world of fancy. How entirely the child is dependent for the content of his thought upon what he can perceive for himself with his senses, and how utterly incapable he is of obtaining knowledge through words can be seen by examining closely the content of any young child's mind.

The nature of the child's thinking, and the characteristics of his mental development generally, can best be understood by the study of his attitudes towards natural objects, and the way in which he thinks about them, noticing how the commonplace experiences of everyday life are eked out by fancy under the stimulus of spontaneous interest or instinct; and how, too, the ideas thus created stimulate the most practical activities, help in the adjustment to environment, and form points to which learning, imposed upon the child by the adult, may be attached.

The sun, the moon, clouds, the phenomena of light and dark, fire, heat, frost and cold, animal and plant life, inanimate things, all come into the closest touch with the mind of the child, excite the imagination,

and supply much of the raw material for his thought. All this goes on independently of all schooling, and resembles in character the free mental activity of the savage or primitive man. In much of his thought the child is creative; he repeats the process by which epic and myth have been produced in the race. He thinks in rhythm or rhyme, uses analogy, holds inconsistent thoughts in the same conception, is fragmentary, imaginative, suggestible — in all these ways repeating the traits of racial development.

One may learn about the growth of the intellect either by examining racial literatures or by investigating the contents of the child's mind. In either case a broad objective method is demanded. No one tribe possesses all the mental capacities of the race, and in the mind of one child but a small part of child thought can be found. But by putting together the fancies of many children, all that the race has ever thought or fancied can be brought to light. The child mind contains precisely such fancies as those from which all mythologies and hero stories, and most of the religion and science of the world, have been created.

The child's interest in clouds, and the fertility of his thought in constructing cloud fancies shows well the intellectual type of the growing mind. There is almost nothing the imagination of the child does not see in the clouds, and so deep is this interest, so intense the emotional effects, that one must believe that in cloud fancies of the child, one sees an example of the power of ancient traces in the mind to arouse its

activities: that these fancies refer back to, indeed are vestiges of, a time when man was at the mercy of uncontrollable forces in nature, and when to watch the sky for signs of storm and fair weather was a matter of life and death. Especially at adolescence, when the effect of clouds upon the imagination is so great, we seem to see reproduced the mythopœic faculty of the race which in earlier times, when the imagination was uninhibited by knowledge, evolved the old Aryan nature deities; and in later times, in Greece and Rome, produced the more humanly personified gods of nature.

Investigations of the child's thoughts about heat and cold show similarly the profound effect upon the mind of these once more vital phenomena. It is when the fancies of many children are brought together that the relation of the racial mind to the child is best seen. For, though each child may contribute but little, all together have created a system of thought, almost a logically constructed philosophy or cosmology, suggesting irresistibly the origin of philosophies and religions in the primitive mind. Studies recently made of the child's fancies about *Jack Frost* show the creative imagination at work in the construction of a theory, doing the very thing the race has done in creating the great myths. For *Jack Frost* is a creation of the modern child, and he is still in the making and in an unconventionalised form.

To other natural phenomena the child's mind responds with equal fertility. The wind profoundly affects the imagination, and it is probably the means of

conveying to the child, as it did to the race, for the first time, the great lesson of the reality and causal efficiency of things unseen, and therefore is an aid to religious development. This is shown by the fact that in many languages words for soul and spirit are derived from words for wind.

Rocks, stones, and minerals also have their story and lore in the mind both of the child and the savage. Many games of children suggest the use of stones and sticks as fetiches, and they have to the child's mind a meaning and are a language, one must think, only because of the long experience with the objects of nature on the part of man.

The responsiveness of the child's mind to the influences of the forest, the power of seasons and twilight to stimulate the imagination, the effects of the dark, all give clues to the nature of the intellect and its relations to the feelings, and show how the fanciful and the practical have grown up together. We cannot at all understand the mind of the child without taking into account the effect of all these agencies upon the minds of his progenitors. The cycle of sunlight, shadow and the dark, so full of vital interest to man, has had a deep influence upon the mind, especially in times before the rise of scientific knowledge. The child's fancies show clearly how thought must have played about these mysteries. Being innocent of those attitudes of criticism which constitute the scientific habit, his thought is positive and free, like that of primitive man — directed by his desires and fears. In the sun myths, especially, is

seen the closest similarity between the child's and the savage's thought. In both there is a first stage of disinterested acceptance of things as they are; then, when fancy begins to play with the material, there arises a great diversity of interpretations, but showing certain fundamental modes of mental action, common to all. Indeed the sun myths mark what may be called a stage of development of the intellect, both in the race and in the individual, and show, in a typical form, characteristic moments of the growth of the intelligence.

The effect of the moon upon the imagination and reason forms another interesting chapter in the genetic psychology of the intelligence. The moon stands in the closest relations, of all the natural objects, to the pleasant and sentimental moods of man. Its influence is especially seen in the adolescent mind, which weaves it into thought and fancy, and even takes it up into the religious life, in precisely the same way that it has entered into the creative fancy of the race, and has appeared in folk-lore, myth, and poetry.

One cannot, therefore, understand the intelligence of man without first perceiving how great a part of the mental content has been, and is still, in the child, made up of thoughts and fancies about the objects of nature. It is not a mere accessory of mental growth, but is the very foundation upon which it is built. Nature objects have not only furnished the content of thought but the attitudes toward them have supplied the motive for thought, and have directed

and even created type-forms of thinking which we use in our practical activities.

The child's mind passes through stages of thinking, just as the body grows by periods. Those minds that are richest in rudimentary forces seem to linger longest in the racial stages, and to utilise them most fully. The child's mind tends to live in one stage at a time, and his interests and his type of thought appear for a time to remain consistent to the spirit of that stage. He lives an intellectual life determined in form and content by the selective qualities of his own inner forces, and although learning may go on at the same time in accord with the demands of the adult, and the mind may be imposed upon to almost any extent, absorption, assimilation, and growth take place naturally only along lines of the interests and the methods chosen by nature.

REFERENCES.—7, 22, 23, 33, 35, 40, 61, 63, 115, 116, 135, 184, 186, 187, 190, 191, 194, 196, 284.

## CHAPTER VII

### DEVELOPMENTAL STAGES

THUS far we have discussed general principles of development, and have shown their application to problems of instinct, emotion, and intellect. Now, a brief survey of the same ground may be taken from another standpoint, observing how the child as an individual passes from one stage to another, and the manner in which this process illustrates further the laws that have been laid down.

For a period of twenty-five years the human being is passing through a series of stages, each distinct in itself and transitory, with characteristics of its own, yet all leading on by a lawful, though circuitous, process to a complete development in the adult form. Transition, succession of stages, is the chief characteristic of childhood.

Beginning with life before birth, and following the growth of the child on to maturity it is very clear that the changes, though subject to law, are not orderly in the sense of being a gradual enlargement of what already exists. Each stage is different from that which precedes and follows, as though it were intended to be a final stage. But presently its characteristics begin to change, there is a short period



of transition and another well-marked stage supervenes, which does not appear to have grown out of the preceding, but rather to have taken its place.

The unevenness and irregularity in the growth of the child has led to many attempts at classification of its periods. Although many marked changes can be made out — and in fact each function can be traced through definite stages, and within larger movements functions can be seen to have periodicities of their own — yet at least four great divisions of the whole course of development stand out with sufficient clearness to be described as eras of growth, and the study of the characteristics of each reveals principles of the utmost importance for a science of education.

The four main periods or developmental stages are (1) Infancy; (2) Childhood; (3) Youth; (4) Adolescence. Each of these stages has such well-marked traits that the same individual, at different times in his life, may seem almost to acquire a new character or to become a different organism. More precise observation could detect intermediate stages, to which names might be assigned. Following each of the periods mentioned is a more or less clearly defined transitional period, partaking of the characteristics both of what has gone before and of that which is to follow.

Infancy, the period from birth until the end of the second year, is especially a time of physiological development and sensory experience. Childhood, from two to eight, is characterised as a time of imaginative activity. Youth, from eight to twelve, is a

period of practical adjustment. Adolescence is a time in which the emotions dominate.

Infancy includes the period from birth to the completion of certain physical and mental changes that may take place as early as the eighteenth month, of which walking is the most important. Growth during all this time is very rapid, and physical changes are continuous. During this period the infant appears so different in every trait and feature from the adult that he would seem the greatest of mysteries, did not the principles of evolution throw light upon the order of his growth. The shape of the body, movements such as grasping and climbing, the shape and proportions of the internal organs, all indicate that the characteristics belonging to the simian period of racial existence are now most dominant and are struggling with the later strata of human characters. During all this period, and on through childhood, there will be many occurrences that can be explained only by evolutionary principles. The feeding habits of the child, his play, modes of self-defence, curiosity, social instincts, all require study with reference to the stages of life in the race centring about the simian age.

From the end of the second year to about eight is the period of childhood. In comparison with years preceding and following it, it is marked by slow increase in height and weight. At three years the brain has attained two-thirds its adult weight, and at seven almost the full brain weight has been reached, though in its finer structure it is still very incomplete. All

through childhood physical activity is excessive, but is neither strong nor well co-ordinated. The large, or fundamental, and not the fine, accessory muscles are most called into play, though from six to eight there is a rapid increase in muscular control.

These years are a time of free activity, naturally devoted almost entirely to play. Doing is for its own sake, and not for the sake of the product. Mental action is much like the physical action, rapid but uncontrolled. The mind is receptive to a remarkable degree. The child is an eager seeker after all kinds of knowledge; the attention is active, but flits readily from point to point. The memory is good, often surprisingly minute and accurate. Thought is active, but disconnected and fanciful, due to lack of control by dominating interests. The period from four to five seems especially one of imaginative fertility. The mind is full of fancies. The play is highly fanciful and inventive. So much, indeed, does the child of this age live in an imagined world that he is often quite self-sufficient, and needs no companion. The function of all the play of body and mind seems now to be to co-ordinate and direct all the wealth of sense and inner experience that has been so rapidly produced in the growing years.

The child is not critical, either of self or others. He is willing to try his hand at everything; he accepts without much question whatever is done for him or told him and has no hard and fast notions of law, either of nature or society to trammel his thinking or acting. The mind is suggestible and imitative more

than at any other period of life. Both the moral and the æsthetic life are crude, like the savage's. The whole life of the child is unformed and in the rough, but rich, full, and active. This is analogous to what we find on the physical side: a brain relatively large, but lacking in co-ordination and delicacy of structure.

At the end of childhood comes a transition period, marked by several changes, the full significance of which is not understood. The most noticeable change is in the body. Rate of growth, both as regards height and weight, is distinctly retarded, and the brain almost stops increasing in size. Many have noticed a tendency to physical weakness and a lowered resistance to fatigue and disease. Movements become less spasmodic and less rapid. Muscular control is decidedly better. Mentally, too, the child appears to be undergoing change or readjustment, and is on the whole making clear progress toward a more adult type of thinking. Still, at the very end of this time, there is a period of heightened imagination. The child is likely to be troubled by fears and other emotional disturbance. In girls the doll interest is now at its height. From this time on it will steadily decline. In a sense, this period seems to be a preadult life, a time in which traits that racially belong to maturity cast their shadows before.

That the passing traits of the child resemble the characteristics of the savage in many particulars cannot be denied. In regard to fickleness and lack of power of long-sustained effort, optimism, and freedom from care and work, close relation to nature, the

tendency to personify natural objects, and to confuse the animate and the inanimate, in readiness to imitate, and to act upon suggestion, the child and primitive man are much alike. Both child and savage confuse the real and the ideal, the waking life and the dream life. They are alike in the manner in which they see resemblances, in their use of analogy, in the way in which they construct language forms. The sayings of the child much resemble the folk-lore of primitive peoples.

Though all must admit the agreement of the child and the savage in many of these characteristics, some would maintain that the cause of the resemblance is the lack of experience common to both, and that it is, therefore, superficial and without deep significance. But it is difficult to examine the evolutionary evidence without coming to the conclusion that the similarity of savage and child has a deeper meaning. The child certainly recapitulates racial experience, in part as the result of an inner growth principle. In the earlier stages this can be seen clearly, though the resemblances become more and more obscured with age and complexity of experience. We must infer that the rapid changes in temperament and mental habit during childhood are caused by the same growth force that is at work during infancy pushing the mind and body up through recapitulatory stages. Though it is impossible to find in later childhood definite stages, which as a whole can be said to correspond to racial steps, it can be claimed at least that stages of childhood represent fragments of racial

stages, and that in his nascent periods the child is truly a representative of the race. Other forces are at work which make him depart widely from the precise order of racial evolution. The fixed traits and habits that recapitulation tends to preserve and hand on intact are taken up and transformed in the process of adaptation in a way not as yet fully understood.

Youth, which can roughly be placed as the period from eight to twelve years, is a unique time in human life, very interesting when considered from the genetic standpoint. Now the child has completed teething, the brain has acquired nearly the adult size, health is almost at its best. Activity is greater and more varied than it has ever been before, or ever will be again. There is great endurance, strong vitality, excellent resistance to mental fatigue. The child now acquires a life of his own outside the home circle; his interests will never again be so independent of adult influences. The senses are very acute. There is great immunity to exposure, danger, and temptation. Reason, true morality, religion, sympathy, love, and æsthetic enjoyment are but little developed. The rules of the adult seem to the youth alien and arbitrary. The mind is keen and alert, reactions are immediate and vigorous. The memory is quick, sure, and lasting. Never again will there be such susceptibility to drill and discipline; such plasticity to habit or readiness of adjustment to all new conditions. Now the finer movements are made with ease, and manual skill is easily acquired. There is

interest in the product of activity, and no longer entirely in the activity for its own sake. Mental action begins to be better controlled, more connected, and more commonplace than in childhood, though the imagination is still active. Conduct becomes to a greater extent reasoned; and it is no longer entirely submissive to the control of parents and teachers. The child begins to peer into motives, and no longer looks at effects alone; so there is more fairness in dealing with others, and better appreciation of reasoned behaviour on the part of those who control him.

This increased sensibleness of the child is shown in many ways. He is no longer uncritical of his own work, nor so impulsive in trying his hand at everything. He is more critical of others. His beliefs are more fixed and definite, and more dependent upon reason. He is less ready to accept on faith what is told him. In a word, the mind has now come to be adjusted to an outer order, and action and thought are no longer controlled by inner impulses. There is less originality, but more strength and order.

Youth, thus described, appears to be a time when the crude outlines of childhood are filled in; a transient completeness is consummated, when the mind has more nearly an adult form than in the preceding or immediately following period. This is the time when children are so often called little men and women; for their ways are likely to become fixed as though for a lifetime. Childhood with its limitations is ac-

cepted without complaint, and life goes on in an even flow.

Soon, however, this adjustment is to be broken up. Many of the traits, apparently so stable, will disappear or decline in the next stage; but while it lasts it presents a definite picture of a well-adjusted existence, suggesting a very interesting parallel in racial development. Youth seems to be a culmination of one line of development, appears to represent what was once a long-maintained and stable period of simple existence; when, in a warm climate, the young of our species once shifted for themselves independently of any further parental care, much earlier than now. Heredity, in this stage of youth, is more stable and more secure, because older and better established in the race. The elements of personality are few, but very well organised on an effective and simple plan. These qualities of the youth are much older than the traits of present civilisation, and they represent habits that existed untold ages before the later human attributes were developed. The child seems mature because many of his traits are precisely those that have belonged to an earlier adult life; traits which, in an ever-lengthening stage of immaturity in the individual have been left behind. Physical maturity now comes later, but many qualities which once accompanied it recur at the time of youth, which was once the age of maturity. The mind is filled with rudimentary organs, instincts belonging to an earlier age, which now develop, but leave the individual later immune to them; instincts which, if



motived by the full powers of maturity would become dangerous to civilisation, as they do even now in rare cases in which, during the period of adolescence, they are sometimes hypertrophied.

Last comes adolescence, the study of which is full of interest for philosophy, psychology, and education. The whole period may be said to extend from about thirteen to thirty-three;—years which, considered as a whole, must be interpreted to mean the coming to full maturity, and the acquirement, by the individual, of the latest stratum of racial development.

The first two years may be called the pubertal period. During this time the organs of reproduction come to maturity. This period extends from about twelve or thirteen to fourteen or fifteen, but differs in the two sexes. Until the end of youth, growth in boys and girls has been much the same; but at the end of the twelfth year in girls, and the fourteenth in boys, there is a period of rapid acceleration in growth, lasting for about two years, and it is at the end of that time that the signs of physical maturity are established. This is one of the most clearly marked transitional periods of life. Besides the more special changes, the body as a whole shows signs of rapid maturing. In girls the figure becomes more round, the pelvic bones change, both in shape and in position, and the gait is altered. In boys muscular strength increases greatly, and the whole body begins to take on adult characters. The features change to their adult form; new resemblances appear suddenly, as though there were a struggle among

hereditary tendencies for permanent establishment. The voice changes. The health is likely to be capricious. Nervous disorders, especially emotional derangement, are prevalent. Abnormal cravings, impulses, and habits often take possession for a time. Everything, in fact, indicates profound changes and upheaval within the organism. The growth force now becomes susceptible to influences from without and from within, and there is danger of disorder and disease. The great evil threatened is that the individual may not now be able to come to full and complete maturity. Many show the effects of imperfect completion; of having been arrested or perverted, in some part or function, at some stage short of perfection. This occurs in all degrees, from very slight disturbance of balance, or deficiency in some one function, to profound abnormality of the whole personality.

The cause of the phenomena of adolescence just described, considered physiologically, is the sudden ripening of functions and parts connected with the sexual life, which, besides causing many secondary changes in the body, send to the brain a great mass of new impressions, upsetting the old order and balance. The co-ordination of the parts is, as it were, broken up for the purpose of introducing new elements. The whole mental and physical personality suddenly becomes larger, richer, and more complex, and at the same time is disordered and put out of adjustment. Many hitherto dormant rudimentary organs of both body and mind appear, which seem each

to obey a law of its own, some now flourishing temporarily, some becoming permanent. The whole organism now becomes more plastic, and subject to all sorts of influence; individuality is more pronounced, and individuals now differ more from one another than in the previous stages. In a word, the simple order of life that has prevailed in childhood has been broken up by the introduction of new elements, and a new adjustment, inner and outer, is demanded.

The changes that occur in the mental life during adolescence are so many and so radical that it is difficult to describe them all. They are to be interpreted as due to the appearance of old hereditary factors, which now struggle for ascendancy in the life of the individual. Perhaps the most significant change is the excessive craving for all kinds of sense experiences. The impulse is to touch life at every point, and to expand in every faculty. The centre of all the changes may be said to be the moral life. Indeed the whole meaning of adolescence is moral. The child has suddenly become an adult, and the duties of maturity begin to press for recognition. He has changed from a self-centred individual, living physically and mentally for himself, to a matured organism, whose life is henceforth to be lived as a service to the race. This change involves the whole body and mind, and is to be interpreted biologically. It has been recognised in every race, and its moral import has found expression in many forms. Its most conspicuous expression has been recognised as religious conversion, but conversion is only a focal-

ised form of what is going on in every part of the organism. However expressed, adolescence is a time of moral crisis, when evil strives to get possession of the life. But when growth is normal the youth soon emerges from this crisis with impulses well in hand and directed toward normal activities.

This changed and deepened note is felt in every part of the emotional life. The whole pleasure and pain field is greatly widened. Routine becomes irksome and there is struggle against authority. The consciousness of self is exaggerated, and there is likely to be both increased selfishness and altruism. The social instinct is deeply affected, with oftentimes changes from extreme sensitiveness to indifference. Love of nature is often remarkably deepened, and nature seems to become a new revelation to the youth. There is love of solitude, craving for wandering, stirrings of the impulse to break away from the parental home, and to establish a new and wider environment.

Taking into account all such facts it is difficult to explain the upheaval of adolescence on any other theory than that now the stage of later civilisation in the race has gained the ascendancy in the individual. The youth had been adjusted to an older order, corresponding to the pre-civilised stage of human life, a life relatively simple, easy, and secure. Now, just before sexual maturity, which has been delayed to allow the growing individual to utilise all possible hereditary forces, the last stratum of racial life bursts into the consciousness. At first there is upheaval. Even after the first two years of the new life adjust-

ment to practical conditions is less perfect than in youth; but now the individual has a breadth and depth of foundation for building a much greater structure. This age now represents the time when, in the race, struggle became more mental than physical. Therefore the effect of environment is less directly upon conduct, and more upon feeling and instinct. It is an age before the dawn of history, in which the great thoughts of the race were in the making; it is a time that has faded from the conscious memory of man, leaving no trace, except in myth, story, and tradition.

These are the reasons why adolescence is one of the most important problems of the new genetic psychology. For in adolescence there is still the trace from which we may reconstruct the history of the race. In this transitory stage the manner of thought and feeling of our progenitors is revealed. This story of the effort of the race to reach a new spiritual level is told in every literature. It is the theme in all mythical creations and all ethnic Bibles. The Bible of Christianity itself is such a story of the history of the race, more complete than any other in recounting the whole progress of the race of man.

But there is another aspect of adolescence, both in its individual and racial meaning. For consider what takes place in the life of the youth. All the past is striving to be heard in him, and to come into harmony in a single life. All racial ideals fight for mastery. Each generation of the past demands something of him. For a time he lives in the hope of fulfilling all this promise. He holds every ideal,

and is not yet prepared to sacrifice any of them. But soon he loses something of this first hope. More and more is found to be unattainable, and at last he is content to do but a small part of what his ideals and fancies impelled him to attempt. Adulthood is thus, in a very real sense, a fall and a degeneration. The adult must sacrifice his ideals for himself, but he does not altogether abandon them. He must be content to plan and build so that his offspring can carry on his part, and in them he attains vicariously the wishes of his youth.

Thus adolescence points both to the past and the future. It reveals the history of the race, its experiences and ideals, but it also sums up in itself all that the race has tried to do, has dreamed, and will yet attain. It points to the super-man, and for a brief time every adolescent represents the man who is to be. It is from this point that the race must build its culture. It must grow by means of an ever higher adolescence carried to an ever higher degree of fulfilment of its promise. At adolescence the individual is at his highest point of susceptibility to evolutionary influences, as well as to devolutionary influences; and whatever is done to adolescence is done to the future of the race. Whatever delays it and brings it at last to a fuller maturity is helping to bring the race to a greater perfection; whatever enables adolescence to contribute more of its best work to the world is adding to the highest culture. It is the adolescent who must create the new ideals. And he must work quickly while the enthusiasm of

his plastic age is upon him, and before the spirit of old age, which is content to hold what is gained, has supervened.

REFERENCES.— 196, 198, 276, 287.





PART II  
GENERAL PRINCIPLES OF EDUCATION



## CHAPTER VIII

### GENERAL PRINCIPLES OF EDUCATION

IN the light of our review of the principles of mental and physical development education can now be defined as conscious evolution. Its chief end is to carry on the race toward perfection, by bringing the youth of each succeeding generation to a higher degree of development than the one which has preceded. All institutions are to be judged according as they fulfil this one supreme purpose. All the great problems of the day must be regarded as in the last analysis educational problems, for their right solutions must be first of all such as will secure the advancement of the coming generation toward perfection of its virtues. The future of the nation depends, absolutely, upon the education of the young, and therefore education is the greatest of all political problems.

The chief danger of our times is over-individuation, the failure of youth to make the change at adolescence by which, reaching the completest maturity, it becomes physically and mentally devoted to the service of the race; and that therefore the present generation will draw upon the capital that should be

preserved for the next. To a certain point we do most for the young by developing our own powers, but there is a point beyond which self-indulgence robs the future. Faith in the future of the race and love for youth are thus the moving forces in all right education. It is the function of all to participate in the welfare of the young, each in his own way. Thus teaching, in some sense, is a universal occupation. It is involved in all other practical aims of life, and should be in the minds of all whatever their work may be. Statesmanship, religion, science, are valuable, according as they contribute to the progress and ever higher development of man. The greatest of all reforms are educational reforms, and no others are complete until they affect education. Therefore progress in education is the best test of progress of civilisation. And the philosophy of education is the most fundamental philosophy. Its problem is nothing less than to understand life in such a way as to be able to construct an ideal environment for the development of the man who is to be, an environment which shall bring to the fullest unfolding every power and part of mind and body; that shall be intellectual training, physical culture, and still more education of the feelings and the will. All the culture material of the race must be adjusted wisely to the needs of the growing child. No educational system, no school nor college is an end in itself, merely to serve our own generation, but all must be judged as factors in evolution. When we recall also that the school is the most universal of all

social institutions, the depth and breadth of its problem becomes clear.

All who work in philosophic and scientific fields should be moved by this pragmatic ideal of knowledge, if they are to hold the right conception of their task. Too often the ideal of knowledge for its own sake is held up. This is narrow and selfish, and antagonistic to evolution, for it places the interests of the individual before those of the race. The largest possible aspect of all the truths of life and mind is practical — educational. The final test of the validity of all truths is their ability to satisfy certain deep needs. No system of thought is ever completely tested until it has been applied to the education of the young. It is a growing appreciation of this ideal on the part of educators, which is working a change from interest centred in the school as an institution to interest grounded in a love of childhood, and a willingness to fit the school to the child, rather than the child to the school.

One of the cardinal principles of a philosophy of education is that its ideals must centre upon an interest in adolescence. Education began in a deep regard for youth and its mysterious transformation. Its first public institution was the initiation of youth at puberty, and it has spread upward and downward — downward to the kindergarten and the scientific care and training of infants, and upward to the university. But always the chief interest has been in the youth approaching maturity. It is this age that the Greek education emphasised, and as a result the

Greeks attained the highest culture any race has ever had. Youth sets the standards for our ideal of what man is to be. And to produce the qualities in abundance, to preserve them on into age, is the great practical task of education.

Education, in its widest sense, includes, therefore, all conscious evolution. It comprises both the methods of teaching and also the principles of inner growth, and the means of modifying it. It must consider everything that affects the individual. Regarded scientifically, it is the science which deals with environment in its relation to the growing child. Considered practically, it is the control of environment in the interest of normal development. Its purpose is humanistic and evolutionary. The art of teaching, in the narrower sense, that is, the art of imparting knowledge, is but a small part of education; it includes many other influences than those of the school.

A comprehensive pedagogy, or science of education, must go to many sources for its facts. It must be based first of all upon the history of all educational influences of the race. This history must include the story of all that has been done for the youth, in all grades and schools, in all lands and in all stages of civilisation. It must include, too, the description of the teaching instinct among animals, and of domestication of animals by primitive peoples, as well as of the influence of civilised nations upon savage peoples.

Next, a science of education must draw upon facts

from all the experimental and other studies of mental and physical abilities and of growth; it must include all hygienic principles pertaining to youth, and many principles of psychology and medicine.

Pedagogy must take into account, next, the whole subject of the culture material of the race. Each subject that can be made a part of the curriculum must be studied by itself with reference to its development, and to every phase of its culture value. This must include the study of everything the race has formulated from its experiences that is worthy to be passed on to future generations: literature, myths, music, games, art — everything that has culture value.

Next, pedagogy must be based upon the ideals and principles that may be derived from a study of racial and individual genesis, and this is the most fundamental part of the subject. For the study of genesis not only provides the true ideals of education, and reveals the standards in reference to which all educational values must be judged, but at the same time it suggests principles of educational practice; tells us how that which appears as an ideal may be accomplished. It is the best means of judging past values in education; it is a means of correcting or confirming judgments of educational values based upon feelings, preferences, and common sense. In this most fundamental of all points of view for studying education, is the promise of a system in the future which shall be both scientific and professional in spirit.

Such a conception of a science of education must make it evident at the outset that no present philosophical system is adequate to be a basis of it. More than any other subject education must take all points of view. It must comprise the good of all systems of thought. It must be idealistic, rationalistic, intuitionistic. It must contain all philosophies if it is to continue to grow to meet the needs of successive moments in the process of evolution. It must welcome anything that will serve its purposes, and will bring it nearer the ultimate truth. The magnitude of the problem has not yet been grasped, because the complexity of the growing mind and its needs are not yet fully understood.

It is this thought that is at the bottom of the new education. It means a turn of interest from the school to the child. It puts the child into the centre and demands that all ideals and methods of education must be judged finally by a knowledge of the facts of child nature, and an interpretation of these facts in terms of the experience and ideals of the race. All reforms in education have in the past come from recognition of these truths, and have been inspired by a true knowledge of the child. The fault has been that knowledge of the child has been assumed to follow from acquaintance with the adult mind. This is not true. The child is not the same as an adult. The psychology of the growing, playing, learning child is the centre of the new philosophy of education. He will do most for education who will point out the way to a better understanding of the



child, and he will stand most in the way of new ideals who becomes complacent and routine in his philosophy, and whose attention is fixed upon the mechanism and system of the school rather than upon the needs of the child.

The study of the child, then, or human genetic psychology, is the very centre of the science and practice of education. This cannot be too strongly emphasised, nor too often repeated. Nearly all who have spoken with authority about education have done so from an intimate knowledge of childhood, and this must continue to be true. It is from the study of all stages of childhood from infancy to adult life that the new light is already appearing in educational philosophy. In the study of the mind of the child both philosophy and education are going back to their natural beginnings. This new knowledge is having the effect, too, of convicting some of our most revered knowledge and methods of the past of great errors. It is causing a turning away from the transcendental philosophy upon which many have been accustomed to lean for their practical principles, to a view in which the elemental instincts and common sense are respectfully heard. Such a new philosophy of education precisely meets the needs of our times in many respects, and it is likely to lay the foundation, not only of an educational theory, but of a new philosophy. It is a philosophy of solvable questions, in which common people can participate and the answers to which can be applied to the practical affairs of men. It is bringing new hope into

a field that was in danger of lapsing into a narrow philosophy. This new educational science has already passed judgments upon many of the most important questions of both matter and methods of teaching in all grades—verdicts, which, when still further confirmed by genetic evidence, will be final, and will give education what it has so long lacked, a truly scientific basis. It will establish teaching as a profession, and make it the most important of all callings. Such philosophy is one in which all can partake. It may be applied to all grades of school, from the kindergarten to the college. It gives us true ideals for the home, for it makes love of childhood the centre of all its teachings. Already, both in its practical and its scientific aspects, it is being felt in religion, in medicine, in the treatment of juvenile crime—in fact everywhere where the nature of the human individual comes into question.

Another lesson from the history of education is that all new work—all ideals, progress, and reform—comes from without the system, from science, from the university at the top of the system. Educational institutions of themselves tend to become narrow, mechanical, and routine. Ideas and ideals are engulfed in the magnitude of the system and are suppressed. Schools are prone to become mere conservators and disseminators of knowledge, and their methods to remain stagnant.

Stimulus from without the system has never before been felt so profoundly as has the new genetic science. The greatest merit of this new view is that it has

opened problems, and unsettled many conclusions that were contentedly accepted as fixed. Its greatest opponents, as one might expect, have been those who, like the Herbartians, have wished to live by a definite philosophy, that could be formulated with precision, and be applied to educational methods; and that could be taught, in rules and formulas, to all teachers. Unlike these philosophies, child study insists upon keeping many questions open and free from formulation into fixed conclusions for practice, and insists that, although education must eventually be based upon a science of human nature, the longer the delay before practical conclusions are rigidly applied, the better it will be for the child, and the broader and deeper will be the foundation of the science of education. Almost all problems of education need further study by genetic methods. These are the kinds of research that must be the foundation of all educational practice in the future. Along these lines teachers must be instructed. They must learn to study children for themselves. To deal practically with anything in any other than a formal and routine way, one must understand its nature. This has not been sufficiently impressed upon teachers, in regard to the nature of the child. The ideal that has been held before them, and which they have too readily accepted, is that of perfecting the art of imparting knowledge, rather than of nourishing or unfolding the child. Attention has been too strongly fixed upon subject matter, and too little upon the child. Teachers are likely to think they have all the knowledge of childhood they need

from a memory of their own, failing to see how imperfect memory is, how narrow the experience and partial the character of any one individual. Nor does the course in psychology usually taken by teachers supply the need. For the psychology learned is too abstract, and is too much devoted to definition and controversy and the minute analysis of the adult mind. In this way it may unfit rather than fit for the work of teaching. The teacher must study the living child, in all his aspects, and must learn how to go to the child for knowledge. The point of view must be far different from that which has prevailed — that of uniformity. This older view provides too little for the individual. Equal opportunity is its ideal. The elective system, which has now spread from the higher to the lower department of the school, indicates what the new view-point is to be.

The new knowledge of the nature of childhood and youth that the genetic psychology has brought to view shows clearly the educational problem that is before us, and at the same time reveals the chief end and aim and underlying principles of all education. The transmission of knowledge is but a small part of the work. Its great purpose is biological; it is to develop the child normally, to the greatest maturity and sanity. This needs to be said over and over again, for it is the central thought of the new education which is founded upon biology. If our race ever begins to degenerate it will not be from lack of knowledge handed on from one generation to another, but from the failure of education to understand its whole

problem; to see that the great work is to bring the child up through the stages of growth, and to carry each generation a little further than the preceding. If education fails to be a factor in evolution, and does not perform this developmental function, all the arts of instruction of the young cannot prevent deterioration. Our work is not so much to teach knowledge as to assist the race in acquiring instincts, by which all its highest ideals may be carried out in the most complete manner. Such a perfecting of instincts can be accomplished in but one way, by bringing out inheritance in the child to its fullest power, by inculcating new impulses and ideals, and by stimulating moral interests at precisely the times when they may sink deepest and may most influence conduct. By creating instinct which regulates the conduct of the individual in the interest of the species, we are educating in the truest sense. That learning and morality which comes merely as an acquisition of the individual, as a self-conscious adjustment, and which can be imparted through fact-learning and by all the imperfect arts of teaching now so prevalent, is but a make-shift and a substitute for true learning, which is the real aim of education.

There are three ideals which have prevailed, or do now prevail, in educational philosophy. According to the first, education is at its highest an inculcation of the best traditions of the past. It reveres Greece and Rome, and the purpose of education, according to this ideal, is to bring the child into contact with this ancient life, and enable him to absorb its lessons in

such a way as to refine his nature, to set him apart from the common herd as a cultured man. This ideal has been most consistently represented by that most conservative of all educational institutions, the denominational college.

The second ideal is represented by the tendency of society to make its schools in its own image, and to measure their efficiency by their success in fitting the child for the domestic, political and industrial life of the present time. This ideal of fitting for present life, for service in existing institutions, though immeasurably better than that of fitting in accordance with a by-gone past, also brings with it a danger of narrowness and provincialism. It tends to select only such knowledge as the adult mind finds useful for its own purposes, and to neglect the knowledge most suited to the child. It leads to utilitarianism, and is illiberal. Those who thus conceive education place the school organisation first, and subordinate the individual to it. Citizenship looms large in comparison with womanhood and manhood. Its greatest fault is that, with a definite ideal of efficiency in life work constantly held before the youth, it fits too narrowly for practical tasks. It leads to too early and too narrow specialisation of interests, to an over-individualised and selfish life, in which the larger conceptions of manhood are lost.

But there is a third ideal which teaches that the school shall not be made in the image of the past nor of the present, but shall fit man for the next stage of his development. In the present stage of rapid

transition and expansion of our race this ideal of the future must be more dominant than ever before, or we shall deteriorate as a nation and fall behind in the race. Our children must be trained not merely to maintain present civilisation, but to advance upon it. We must never forget that the present is not a finality. And, knowing the spirit of the age, we must quite as often oppose it as serve it. Education must always see that no good of the past be lost, but on the other hand it must infuse into youth a deep discontent with things as they are, and it must give ideals leading to the next step in human evolution. That is, education must always fit youth to live in the future, not in the present nor in the past.

The grammar school may well have as its purpose to teach with reference to the present conditions, and may aim to impart the great mass of useful knowledge which represents this ideal, but the high school and the college must turn toward the future. In them personality must be unfolded to its uttermost, with the assurance that state, industry, family, church, will be transformed and made to fit it and not the reverse. The adult cannot understand adolescence fully, and is too likely to limit its ideal and to turn it toward the present or the past. The wise teacher will more often follow than lead. He must let youth develop fully before the life of practical service begins, in order to make that practical life more effective and complete. Even under the most favourable conditions the individuality which now culminates will all too soon be cut short by adult interests, so that the best

that education can do is to prolong this stage of transition as long as possible, until the broadest possible maturity is reached; until the most complete message the past has to offer is delivered, and thus the truest ideals for the future may be established.

Education, thus understood, is through and through moral in its intention. Its work is to fit the child for life, for a moral life in a social community, and yet a life in which fitness for the present is not the only ideal. Education is essentially a setting of ideals, and it can truly be said that there is nothing so practical as moral ideals. The school must represent the community, but in its relation to past, present, and future. It must aid the child to use to the fullest extent the hereditary forces which well up within him. It must give him the best of current culture, must fit him to live with a practical conception of present needs, and yet it must set his face strongly toward the future. It must inculcate a desire to live for the future, in the service of humanity. The school must, therefore, keep in touch with life at every point. It must not only represent or mirror life; it must prepare for it, and create it.

We can advance one step toward a conception of education by defining what fitness for life actually means. Fitting for life means preparation for a whole, complete life, for practical everyday service; yet in such a way that the individual develops normally and fully. The basis of a practical education is, therefore, fitting for occupation, and finally for specialised interests and labour. However circuitous



the process may be by which the higher specialisation is reached, this must be the ideal and goal. This idea is elemental. The greatest problem of education is to secure this result, to adjust the ideals of service and self-interests, to reconcile culture and practical life, to bring into harmony the teaching of fact and the ideals of mental training. Only in a biological conception of growth of the individual, that is, of development in relation to the evolution of the race, can we find guiding principles in these problems, or obtain any clue to the true order of education.

The main principle of this biological view of education, and the manner in which it reconciles the practical and the disciplinary or cultural aspects of training, is simple enough so that one who runs may read. The child recapitulates in his growth the racial experiences, and arrives at last at the stage of development of his own social environment. This process does not, however, lead by definite practical steps, in a man-made and logical sense, to an equally practical end. It is circuitous, and it often seems for the time to be leading directly away from the specialised activity in which it must end. But it is practical in the sense that if the individual be allowed to follow under favourable conditions his natural course of development, or if his education be directed in such a way as to assist and not interfere with these natural steps, he will arrive at the end of his circuitous journey at a point at which he will represent the best experiences of the past, be best fitted to adapt himself to present institutions, and will have besides a mo-

mentum of growth and interest to go beyond the ideals of his day, and to lead a life of the highest efficiency in the service of the future. The work of education is, precisely, to direct this development in such a way that special abilities and interests may develop at the right time out of general interests, and to prolong whenever possible the periods of preparation. This biological conception of education therefore unifies the two ideals—the practical, which demands that the child be taught in school that which will be directly useful to him; and the cultural, which demands that the mind of the child be trained in a general way, represented in its extreme form by the Latin and Greek ideal. The ideal, in the biological conception of education, becomes the practical, and the practical is seen to be the ideal. The child learns, and becomes adapted to, practical life by passing through all the stages through which the practical activities of the race have passed, and this is, at the same time, the highest type of culture which he can absorb. He must practise for a time that which shall be but a temporary interest in order to proceed, by nature's way, to the next higher step. He must be at each step the best possible representative of his race at that stage, cultivating broad interests and many abilities in order that later they may be brought to the best practical application. Merely to teach what is practical without reference to the needs of the stage of growth; to impart knowledge precisely in the form in which it is to be applied in adult life, is the greatest violation of this principle. Training the mind upon

the adult's interests and culture material, without reference to the time or manner in which it is taught, is the great pedagogical sin.

This view of education, which must recur again and again in every problem of the curriculum, may be illustrated by an analogy from physical growth. In the earlier periods in the development of all mammals, the embryo passes through stages that do not in the least indicate what the adult form will be and which from practical considerations would seem wrong and superfluous. And yet these stages are of the utmost importance, for many of the most essential higher structures could not be produced without them. Precisely this principle holds, to use a single illustration, in the growth of the tad-pole's tail, which is in itself of no conceivable use to the adult frog, *but contains the means of development of his legs*. This biological principle is more than analogous to the principle of human mental growth. It is the same principle. The practical is the natural and the normal. However much the process may be obscured in the later stages on account of their complexity, the child is just as certainly passing through nature-made stages to the end of his growth, and he is becoming practical oftentimes by apparently unpractical means. Education must take the indirect and unpractical way of nature of arriving at the practical end. It may not merely teach the child the facts it wishes him to use or apply, for the simple reason that knowledge is not power. Interest must be created, and power and momentum generated, by following nature's steps, for they can be

gained in no other way. The whole history of animal life enforces this view. It is a fundamental biological law. Education must take the biological rather than the logical road to its end. Applied in detail, of course this principle meets with many difficulties and obstacles. The child is complex, his stages of growth are obscured, and are often foreshortened in ways which are but little understood as yet, for we have not thus far a criterion of normal development based sufficiently on facts, nor have we a satisfactory theoretical formulation of the principle of recapitulation. Yet it must stand as the first principle of education and must be kept in view in considering every great problem of the school. We must understand that the child's life must be kept sacred to heredity, that the past can teach him far more than his teacher will be able to impart to him; that nature will direct his growth and point out the steps, and that only by taking advantage of the momentum of this past, and building upon the structures which nature establishes can education be made to assist nature. Otherwise nature and education will be in conflict in ways that can not fail to do harm to the child. The problem of education is to discover the stages and manner of transformations in the child, and learn how to facilitate growth, complete the co-ordination of these stages into a unity, supply the right culture or nutritive material, suited to each stage. Only thus can we expect to find educational standards, to protect against the many influences in society — in home, school, church, civilisation generally — which tend to break up the natural process

of growth of the child, make him precocious, drive him too early to specialised and practical life, and teach him what he is not ready to learn.

Though individuals differ greatly, not only in regard to the age of appearance of racial steps, but in their combination and sequences, a knowledge of nascent stages and interests, studied in masses of individuals, by methods of average and the like, will be for the present the best safeguard against many of the evils of the present educational system, and will furnish the best standards for curriculum and method-making. The first problem is to learn how to recognise the stages in which nature is at work, and we must then allow these stages free play, suiting instruction and culture to them with full confidence that the insight of nature and of the race is better than the wisdom of the individual, and that if nature be wrong, it will certainly be impossible to devise a method that shall contain less dangers of errors. Two periods of life, infancy and adolescence, show so clearly the working of nature directing all their transformations that here at least we may be reasonably sure of the proper method of education. We must in both these stages be careful not to try to accelerate nature and we must be equally sure that there are no retarding influences. Good nutrition is the only accelerating factor which may normally hasten stages of growth. All external forcing is antagonistic to nature. Interest welling up from within shows the way; the hands that guide must have a light touch.

If this biological principle be the true foundation

of the theory of education, one must see that the play of the child most truly reveals his true nature, and most clearly indicates the lines upon which educational practice must be planned. Play is the most universal activity in the world. It is nature's product, and in it the child shows clearly the stages through which he passes. Play is to the highest degree practical, for, although it has no immediate end whatever in view, it accomplishes the highest purpose of bringing out in the child his hereditary forces, of helping him through the racial steps, of bringing him to the most complete maturity and efficiency. Play represents both the past and the future. In play the child exercises what is racially old, but play also points to the future, for it is the basis of the power of all that is to come, and in that sense, it is in the highest degree practical. Many of the child's activities reach useful ends in no other way, for they live but a short time, and then give place to new interests. Yet they perform a part by taking their necessary place in the natural order of progress of the child toward higher stages.

The child is most natural and whole when he is at play, and it is the playing child that the educator must study more than any other subject in order to learn his methods. Many play interests may be transferred bodily to the practice of education, for the child is capable of developing every ability and function in his play. Whenever, in the school, the natural play interest may be brought in, there is work being accomplished; for then the child is in his own element, and his mind is active through inner motives.

Free activity of mind and body, doing what the child tends to do, when he is left to act himself out freely, must be the spirit of education. Of course as regards details of application of this principle, we are but at the beginning of the problem. We do not yet know what stages of growth are in the process of becoming shortened, what should be prolonged and intensified, nor to what extent nature may be helped by precisely the right assistance at the right time. We do not know what of the past experience of the race is least of service in the present. We do not know how nature is trying to choose and thread her way up through the hereditary stages, so do not know how to choose just those forms of culture materials most suited to each step. We do not yet know how to direct the play activities in such a way as to facilitate to the greatest extent the working off of undesirable traits in development, which is one of the most important functions of the play life.

Play, we must understand, is vastly more than a motor function. Both body and mind pass through their play stages, and for every developing faculty there is a period of unpractical and free activity, which we can call nothing else than play. In all these transformations the general pattern of the process is the child's own, the spirit in which everything is done is the outgrowth of force working within, and is not imparted from without. The adult may choose the material upon which the child's play interest shall expend itself, but he cannot create this force, and he must not try to direct it into channels unnatural to it.

There must, therefore, be no fundamental distinction between play and work, nor between play and study. Education must begin in play, and the play spirit must pervade all work. It is the most economic mode of activity and therefore it must be made use of whenever it is possible. It must be carried on through all the periods of education, and adult life must be suffused with its spirit. To the extent that this can be done, the chasm between self-sacrifice and self-expression will be closed. Play is the best organiser of activities, and it is by moulding the play forces in childhood and youth that life may be organised into a connected whole, with interests properly proportioned to the needs of the individual. Work, without interest, action with defective psychic impulsion, is the tragedy of the world. It brings fatigue, and fatigue is the greatest of all deterrents of normal progress, whether in race or individual. It arrests growth and action, and makes for permanent arrest in low stages of function and structure.

The opposite extreme of such a mode of educating the child is that which tries to impart to him the rudiments of an artificial culture apportioned according to the standards and ideals of an adult mind. For its motive forces, to create interest, it depends upon fear, prizes, examinations, upon various forms of artificial rewards and penalties, near and remote. Its method is acquisition and not use nor growth. Such a method plays havoc with all the nascent stages of growth. It sets up a logical, rather than a genetic or natural, ideal. It over-emphasises form, and neg-



lects content. It tries to develop by mere mental training. It has no true place for natural interest, and it forgets that knowledge is not an end in itself, and that study is not merely for training the faculties. It selects studies in which there is a minimum of pleasure in the pursuit, with the hope of a maximum of good from the effort to acquire knowledge. Methods of drill and exactness are placed before methods of stimulation and suggestion. Such an ideal is wrong, and it cannot possibly lead to the fullest maturity. In it the order of nature is entirely lost, and even inverted. Subjects are taught, not with reference to what they will do for the child, nor with regard to what the child will do with them, but according to an artificial and superficial conception of practical use or training for present use as a step in the educational process, and leading to examination for the next grade ahead. Everything is taught in the logical order in which it is contained in the text-book, and in the teacher's mind. The teacher's mind should be charged with his subject to overflowing, if he is to have the best effect upon the mind of his pupil. But instead of that, too often the teacher knows but little more than is contained in the texts he teaches, and he takes one subject or another, as need demands, with but little special preparation. In this way the manner of teaching is put before the content taught, and the disciplinary value of the subject, its usefulness as a means of bringing out desired qualities of effort or attention of the pupil, is put above the nutritive value or timeliness of the subject matter. There is too much of rule and

precision, and definite learning of formulas. All such methods, which conceal from the pupil the vast world of knowledge, and give him a few facts and principles, tend to make for a conceit of knowledge that destroys natural curiosity. Mass teaching still further depletes the nourishing effects of the teaching. There is method and uniformity. The same matter is taught year after year by the teacher, and his store of knowledge becomes antiquated and not suited to the present needs of the child. All such objections fall under the one general criticism that the school method that is based upon the adult's conception of knowledge and its uses violates the nature of the child's mind. The school takes the child away from the natural conditions of the home and society in which he can live out his native impulses, and puts him under restraint, too often with a teacher who is more disciplinarian than truly teacher. Such treatment at its worst makes an early maturity, but one lacking in depth. It takes away natural childhood and makes the youth old in thoughts before his time. All such ideals violate the play spirit of childhood. We must not forget that the school, at its best, is but an artifice on the part of man to cope with conditions that a somewhat abnormal state of life in civilisation has brought about. And we must not forget the true significance of the school, as indicated by its very name, which means leisure. The school rightly stands for a prolongation of human infancy. It is sacred to growth, health, and heredity, and to the play-spirit. The first effort must be to keep out of nature's way. Every invasion of the child's

natural leisure has a presumption against it, and must justify itself. We are too likely to worship the alphabet and the multiplication table, and to forget that even reading and writing are but recent acquirements of the race, and that millions of years of man's history have been lived without them; that, finally, there are many children who ought never to be educated in the routine of the school.

There are other forms of education, yet the school is likely to think itself the only educative factor in the child's life. In a sense it still does but poorly what a more primitive agricultural life did for the child; the life in which labour was more undifferentiated and in which the child took a part in the home and in the activities of society and received most of his education by activity and contact with his elders. Such a life still lingers in the country, and represents an educational system from which the modern school has still much to learn. The farm was a great natural laboratory. It trained a child to usefulness, without destroying his play spirit, nor making his life artificial. It was rich in moral elements, and opened all the interests in nature to safeguard youth during the times of greatest danger to health and morals. Biological education demands, as its first principle, that we stand out of the way of nature and allow it to have its own way with the child. It declares that the great need of the whole period of development of the child is to live out each stage, lingering in that stage as though it were to be the last. It asks that the child's growth be, for the most part, retarded rather than

hastened, in order to give all the nascent stages time to fully ripen. To linger at leisure in each recapitulatory stage, so that each individual may experience all the life the race has experienced, is the ideal. This is also the most practical education, for the individual thus completed is the most mature, the most efficient and therefore the most economical for any society to produce in the greatest abundance possible. Much of the art of education consists in knowing how to make use of each recapitulatory stage, to make it yield most, and to serve as the best possible preparation for the next stage. The child must be educated in these lower stages with a full knowledge of their value and importance, and the culture material upon which his mind is nourished must be similar to that which the race itself, in these lower stages, used to fit itself to be the progenitor of superior types of human life. One of the chief functions of education, too, is to prevent the lower forms of interest and enthusiasm from becoming established, and to utilise every force in the lower to build the higher. In a word, to repeat what cannot be too strongly impressed, the biological principle demands that the child be allowed to live in and enjoy to the full each stage, while we provide for him whatever makes it more full, joyous, and free, at the same time moulding his energy and directing it toward the best ends. In this way the child is educating himself in ways of which he knows nothing. He is practising, in a harmless way, the great sins of the race, and fortifying himself against their later influence. He is draining off rudimentary impulses, and unfolding from the

energy, thus set free, powers that he will later use in practical life. The teacher's art must now be to vivify all the resources of literature, tradition, and history, and supply the fullest culture he can command. The child must mature slowly, in every part and function, and this he cannot do unless there be plenty of materials upon which the mind may linger. Otherwise the starved mind will pass on toward maturity more rapidly, but leave a shallow foundation for everything that is to follow. The worst form of all of the dreaded precocity is early sexual ripening, so likely to follow if the social life is too stimulating, and the child's natural interests are not properly fed. If the child's nature be played upon by mature impulses, if he be so trained that he imitate the adult rather than live through childhood's natural stages, some form of too early maturity is sure to ensue.

Now, although we lack greatly a science of childhood complete enough so that we can detect each nascent period, or the precise relation, at any time, of individual to race; and are as far as can be from a scientific pedagogy in the sense that we know exactly what culture material to apply at each point to each individual, we have one cardinal principle — one reliable means of determining the order and, to a certain extent, the proper method of teaching. This cardinal principle is that interest is the best test of capacity and of pedagogical ripeness. Interest is like bodily hunger, an expression of need, and the best expression nature or reason affords us of the child's requirements. The difference in the effect of activity that proceeds from

interest developing from within, and activity that is forced upon the child against his native desires is very great indeed. These artificial interests can easily be created by the adult, for the child's capacity for interest is plastic, but the forced interest has no root, what is thus acquired is not assimilated, and it therefore remains in the mind as a foreign body to impede growth and to lay the foundation for many an ill. Without natural interest there can be no normal development. Therefore the first work of the teacher is to discover interests, to put the child into situations in which interests will express themselves.

Each stage of childhood is marked by its own interests or nascent periods, in which activities develop from within. These are milestones to guide the teacher. To teach the young we must meet them on the ground of their own interests, for thus they will of themselves supply the power, while education directs and guides, stimulates, inspires, and nourishes. Adult interests and methods of learning must be kept assiduously in the background, and everything must be adapted to the child. When these nascent periods are better understood, we shall have a far deeper insight than now into economic methods of teaching. The laws of these nascent periods are yet to be determined; we must know the age curve of growth and decay of each; we must learn precisely how much each function should be stimulated and when; how interests must best be treated in their stages of most rapid growth and of least growth; how to train each individual with reference to his special abilities, whether to stimulate

greatly that which is prominent, and to bring abilities to the fullest development of which they are capable, or to educate more by training powers and parts that are weaker, in order to preserve proportions in the development, and to prevent individuality from becoming excessive. All these are problems that can be solved in but one way — that is, by accumulating evidence from many individuals with reference to every natural interest. Complete solution of all these questions is an ideal of the future, but in the meantime the educator must work with the native interests as best he can, and try to understand the periods of the child's progress as determined by nature; and he must not violate these by inflicting upon the child methods and order of studies arranged merely according to adult logic. It is only by following the course of natural development that the personality will be completely organised. An education that follows along the lines of inner development of the child's interests is the only one that trains the will properly. Such a curriculum has a natural, and not an artificial unity, and its great advantage is that, however complex the culture material, if its sequences follow the natural order, mental dissociation does not result, but mental unity. Such an education is the simple education, because it works upon elemental instincts, because it does nothing that the child does not of himself tend to do. It puts the individual into normal relations with his fellows, inculcates deep beliefs, fixes regular and deep habits of thought and action, brings out individuality, and lays the foundation for a specialisation which shall be

broadly based upon the natural interests and shall grow out of them. Such teaching and such culture material produce and strengthen elemental virtues and emotions.

It is precisely in the opposite direction that much of the present over-culture leads. Too much knowledge out of relation to native needs distracts the mind rather than educates it. It prevents growth, both physical and mental, because natural enthusiasm is not aroused. It fatigues, because the will effort that it demands is not natural. Combined with the evils of city life, with its too many and too diverse attachments and interests, and its artificial stimulations of the mind, precocity and too early wisdom is fostered, and education fails to reach the most essential parts of the nature of the child, but merely informs, and prepares for examinations.

These principles need to be emphasised again and again, for they are to be applied to every topic of the curriculum, and to every method of instruction. The first question to be asked in each case is whether the proposed thing suits the nature of the child as a race-recapitulating organism. If it does not it is wrong and unpedagogic, however dear it may be to the adult's heart. The applications of the principle are many, but the principle itself is simple and clear. Many problems of detail remain to be solved, but the method is plain and direct. Always the child must be interpreted in his racial significance, both as an organism produced by the race and bearing its fruit, and guided by its experience; and also as an organism produced



by the race in its own interests, to serve it by a life of specialised activity, to be perfected by such a course of training as nature itself has pointed out in its great fundamental lines. Knowledge of the mind, as thus understood, is necessary in dealing with every problem of childhood, from even before the birth of the individual, and on to the last stages of maturing. Education must rest upon a science of development.

REFERENCES.—24, 28, 32, 43, 51, 76, 78, 84, 88, 92, 101, 105, 109, 116, 133, 143, 147, 155, 159, 162, 168, 170, 172, 188, 194, 196, 208, 220, 226, 227, 228, 245, 262, 264, 279, 282.

## CHAPTER IX

### PHYSICAL AND INDUSTRIAL EDUCATION

THE biological principle that declares that mind and body have evolved together in the race and have developed under the same laws in the individual, necessarily makes ample provision for the training of the body, when it is applied to the theory of education. Physical and industrial education are in an especial way natural, for they are older than all schools. Primitive life in the open air, in forest and country, contained many educational resources that have been sacrificed in modern life. This still remains as an ideal. The abounding health that comes from a life of free activity is the foundation of all enthusiasms and interests. To produce such a state of health in the child, so to imitate the state of nature that this can be secured, is the first function of the school. The health of the present generation is the only promise we have of the welfare of future generations. All institutions must be judged first of all from the standpoint of health.

The care of the health, we may say with all the authority of biology, is the first duty of both home and school. Questions of food, exercise, and air are fundamental. There is need of great reform and wide-

spread public education on many problems of the physical life of the child. The feeding of infants needs to be put universally upon a more scientific basis, and the causes of the great mortality of infants in our cities must be better understood and removed. The duty of parents toward their children does not end with giving them birth and sustenance. They must use every means of bringing them to healthy and complete maturity. It must be a part of public education to teach parents how to do this, for upon it depends, more than upon anything else, the future of the race.

When the child passes from the home to the school the problem is still first of all how to promote health. Parent, teacher, and physician must co-operate to keep the child healthy. Especially in the city, where life is hard for the child, must the school do its part. Without such interest in the physical welfare of the child the school is but a poor servant of the community, for it neglects the most precious possession of society, the health of its young.

Within the school the problems of health are many and serious. The school building itself should represent the perfection of the builder's art. It should be situated with reference to the best air and light, and be free from all disturbing influences of every kind. The playgrounds should be more hygienic than most are now; and they should always be open. The soil should be prepared with special reference to its use, and the playground should not be closely fenced in, but open on all sides. Ventilation, heating, lighting, arrangement and form of desks, the hygienic aspects

of reading and writing, exercise and recesses, all the problems of length of periods of study, and their order, means of prevention of contagion, cleanliness of both child and the school — all these are serious scientific questions which appear large from the evolutionary point of view and worthy of the closest study and attention by everyone responsible for the health of the child in the school.

Outside the school there should be more provision for the welfare and health of the children. There should be reduced rates upon cars leading to parks and to the country. There must be an abundance of public playgrounds, of gymnasias and baths, and all vacant places in the city should be turned to account in providing for the play life of the child.

Especially the health of the child in early adolescence must be the care of both school and home. There is need of a great awakening of interest in attention to the health at this time. It needs a science and hygiene all its own, its problems are so special and so different from those of other periods of childhood. Especially important at this time is sexual hygiene, for upon the proper care of the sexual organs and functions not only the health of the individual greatly depends during all the remaining years of his life, but the future of the race as well. At no other period of life is unhygienic living so prevalent, nor so harmful.

Now the best of all controllable means of preserving and increasing the health of child and youth is properly regulated muscle culture. Man is by nature a motor animal. All his interests have been motor in-

terests. Nearly half his body is muscle. Life is conduct, and the muscular system is the only means of making of worth any thought or feeling that is ever experienced. We are coming to understand that activity is the key-note of life; there is less and less use for mere knowing. Education must be at bottom activity, involving muscle and will, if it is to represent life and prepare for life. It is better to train a child so that by activity he adds ever so little to the values in the world, than that he should store up the greatest amount of unexpressed knowledge.

Muscle strength and endurance are needed now more than ever before, especially in the great industries of the city, yet the city is the very place where it is least likely to be acquired and is most in danger of degenerating. For these reasons there is need of wide-spread and deep understanding of the function of muscle training, in relation to health and efficiency both of mind and body, and of something like a revival of primitive interest in the active life. Especially is this true of the years of adolescence, when muscle development has its greatest opportunity, and when neglect of the muscles is the greatest fault of most of our educational methods. At adolescence the muscles begin to increase rapidly in size and strength, the heart increases in size and power, and in thickness of its walls. Now, of all times, good muscle-habits must be established, for they are fundamental in the education of the will and the emotions. This is the surest entrance to the enthusiasms and to skilled activity, and the best of all protections against the moral evils of this trying period.

Two principles must be clearly appreciated in estimating the function of a motor education. The first is that muscle training is not only for the purpose of increasing health and physical strength, but it is quite as much mental and moral discipline. Muscles are the organs by which we perfect habits, and by which we express ourselves in every way. Therefore motor training is quite as much a part of mental education as is any other discipline, and it must not be regarded as merely physical in effect.

The second principle is that in the growth of the individual both the nervous mechanisms and muscles tend to develop in a fixed order, from fundamental to accessory. The individual follows the racial steps, and first are perfected the larger muscles and their nerve connections, those that mediate the racial movements. During childhood the great fundamental muscles of back, arms, and legs are most used, and they should be the parts upon which the greater part of motor training is centred. The finer movements have been produced as a superposed layer upon the fundamental, and they come later in the individual as they do in the race, and in an order fixed by nature. The school often violates this principle of motor development, and especially in the writing and busy work of the first grades the opposition to nature is seen. Many seem to think that because the child is little he must do little things, but quite the opposite is true. The smaller the child the coarser, larger, and freer must be his movements. The racial movements, the fragments of

motor interests that well up in the child and flourish for a time are signs that hereditary forces are functioning. These should have free expression in play, for they generate plasticity, make the motor experience rich and full, and lay a foundation for later, more refined, and more skilful movements.

The period of from eight to twelve or thereabouts is a time of development of the finer movements, when skill in many directions may be acquired naturally and without danger to nervous mechanisms. This is the time indeed when skilful movements may most easily be learned, and most perfectly established for life. At adolescence again comes a period of rapid development of fundamental movements. The great muscles now have a period of rapid second growth, and this is the time when they must be trained and must function in enthusiastic activities. This is, in fact, the one time of life when muscular power may be acquired and if muscles are not now trained there is danger that there will be imperfect control or weakness, and wrong motor habits which will continue to hamper the individual throughout life.

For present purposes all motor training may be divided into four general groups. These are (1) Play — including all the free activities of all ages of youth. (2) Industrial training, including all teaching of occupations that are practised by adults or have been practised by them in the past. (3) Manual training, including all formal systems of hand training such as the Sloyd. (4) Gymnastics, all definite body-train-

ing, caesthenic exercises, gymnasium and apparatus work of all kinds, and the various systems of physical culture.

**Play.**—Play is related to all practical activities of the race, and on the mental side, it is the raw material of which all purposive activity is made. In play the child repeats, stage by stage, the activities of the race. Play is the most natural attitude of the child at all times, for in it he is racial; he plays without effort, and with enthusiasm and pleasure, because he is carried along by the powerful impulses of the race, which live again in him, and control him. Considered thus, it must be seen that play is the fundamental form of motor training and exercise suitable for the child at all ages, and must be made the basis of all the rest. It is the best because it is the most natural, the most general, and the most autonomous. In play the requirements of nature are so clear and unmistakable that the child may be left in great measure to educate himself.

Play must be regarded as the greatest of all educational forces, the foundation of education. For without the interests which play creates the child could not be educated in a true sense at all. The methods of training the child are more clearly pointed out to the educator in play than in any other way. The best guide as to what shall be played at any age, if the social environment be normal, is the natural interest of the child himself. Play interests indicate the ripening of functions which need exercise. Play may be directed by stimulating in the child those forms of



expression that have developed in the best social environments and among the most normal children, but play must not be artificially prescribed to the child.

A few of the many play motives which are most directly connected with the education of the child in school can be used to illustrate the proper attitude of the teacher and parent toward the play life of the child, and to indicate to what extent and how the play interest may be directed and utilised.

No form of motor activity is more nearly universal than dancing, nor more deeply affected by phyletic motives. In the dance can be expressed, in the form of movement, every important act, sentiment, and event of man's life. The dance goes back to the time when play, art, and work were not separated from one another. It is one of the best expressions of the pure play impulse of the child, and of his motor needs, and it constitutes the most liberal and best form of motor education. Our modern ball-room dances are of the least value of any, and are least rich in cultural elements, both for the body and the mind. The dance needs to be rescued from its present degenerate form, and be so enriched that we may use in many ways the motives which it arouses and expresses. Not only is there possibility in dancing for an almost ideal bodily training, for strength, co-ordination, and endurance, but it is also one of the best educators of the will and the higher sentiments.

Another old and deep motive is conflict. It is this instinct that inspires a great many of the motor activities of the child, as well as all such sports as wrestling,

fighting, boxing, and hunting. This strong primitive impulse is a power that must be directed and made to assist in the child's education. All the movements, interests, and mental states that it arouses can be brought to bear upon the specialised activities of games and occupations, in such a way as to add zest and enthusiasm.

Another racial interest, less active and less general, but a powerful stimulant to the most varied activities, is the interest in dolls. Doll play is not merely an expression of the mother instinct of the girl, as is sometimes supposed, but of the social impulse as well, and is therefore native in both boy and girl. The doll is not so much offspring as companion and associate, with whom nearly all the interests and activities of daily life are reproduced and recast. In his doll play the child not only exercises both fundamental and accessory movements, but he practises a remarkable variety of generic activities which underlie later occupation. With a doll the child expresses and practises almost everything he knows or can do. Therefore the school should, on the principle of economy, use this plastic energy which is already active and does not need to be created nor aroused. In fact, the doll play of the child can be used to teach almost anything the school needs to impart in the earlier years, and in such a way as to utilise the momentum of a plastic phyletic interest.

Almost the same words may be used in explaining the nature and function of the collecting impulse, which is related to the deep property instincts of the race,

and is an universal and profound motive in the child, which may be used in many ways. By arousing an interest in collecting, almost every intellectual task of the child may be enlivened, and even the most purely cultural subjects may be made to assume some of the qualities of active, motor interests.

Another example of the manner in which an instinct may be made to do work in educating and co-ordinating the mind may be seen in the child's native interest in playing in the earth or sand. Children left to themselves, or wisely directed, tend in such plays to socialise their activities, and to express almost every aspect of their environment that strongly appeals to them. In such an activity the child's interest becomes constructive and imaginative, and he learns quite spontaneously many lessons of social life and industry. Indeed such play possesses, as an educative factor, one conspicuous advantage over the school, in that all that is learned is expressed, and the learning grows out of an active interest. Everything comes naturally from the step before it, and so all is co-ordinated. It is all brought to a focus, a unity is made out of widely diverse facts and actions, and knowledge is brought to bear precisely upon the point where the child's interest is centred, as he co-operates with the interest of another in free, natural play. This is an ideal expression of a motor education which is also mental, and a mental training which, as all mental training should, expresses itself in movement.

What is true of one phyletic impulse in the child is true, in a sense, of all. The child passes through

nascent stages of impulse when he is ready for any learning that may be attached in a natural manner to these interests. The order, form, and general character of these interests are determined by nature. The materials which the child shall use, and the manner in which the interests shall be turned to account rest, in part at least, with the parent and teacher. So great and far-reaching is the play spirit of the child that many now think a well-rounded liberal education could be given by means of plays and games alone, believing there is no profit where there is no pleasure in the task. Hence we now find play-grounds, publicly directed play-institutions of one kind and another, play-schools, and play-teachers — and all this one of the great factors in a movement toward a better co-ordinating of the motor and mental interests of the child, and a better physical education. Play is one of the magic words in the new education. The problems of play are now open all along the line in education, and one of the greatest of all practical questions is how to make the most of play in teaching the child; not only in the kindergarten, but on upward in every grade of the school system. The problem of the city is how to utilise every inch of possible space to give the child's play life room to expand. Roof-gardens, playgrounds, recreation piers, schoolyards and school buildings must be utilised. There must be plenty of excursions to freer and more open spaces, and outings of all kinds that seem to favour growth. Juvenile theatricals, boys' clubs, nature study, industrial plays, curricula of plays and games, sand-piles, apparatus, parks, animals, must all

be treated as educational agencies, and their value and proper application to all ages and conditions of childhood must be precisely worked out.

At the age of adolescence the play problem comes to the front in a new way. Now ensues, in many respects, a second infancy, and the play of many new functions begins. At this time the play spirit must be utilised to save the youth from many ills of both body and mind, and to carry on his enthusiasms and growth to the highest possible plane. There should be both public provision for the recreational life, and the school and home must recognise the fundamental nature and power of play. Among many recreational measures best suited for this age, swimming may be mentioned as excellent both in mental and physical effects. There should be in every city abundant facilities for this most healthful of exercises, for it has unique powers over the emotional life. Rhythmic games, and games involving passive movements, are efficacious. There should be plenty of skating, tennis, golf, cricket, fives, croquet, bowling, quoits, curling, all of which have power to control the emotions, which are in great need of training in all this transitional period. Walking, running, dancing, coasting, and perhaps most of all hill-climbing are of value in helping to control the sexual passions, which at this time are so liable to over-excitement or perversion.

**Industrial Education.**—The great need and the meaning of the industrial idea in education have already been sufficiently emphasised. Most of the natural activities of children consist in rehearsing the in-

dustries of the race. Whenever we find strong interests or impulses they will usually be discovered to be impelled by the revival, in the child, of practical interests of the race. Modern life draws the child away from this free expression of the life of the race, by forcing him into a sedentary, learning life, even in the earliest school years. Education needs to be brought into closer touch with activities upon which adult practical life depends. What is oral, and dramatic — the pictorial, the motor, the strong racial movements as expressed in industry, movements of lifting, digging, striking, throwing, running, need to be brought into the child's experience in a co-ordinated manner. All the multiform activities of the race must be represented in the child. The product, the thing to be made or done must be the end; and not merely the activity as exercise or motor expression. It has always been the product that has inspired the race, so it must be for the child. He must make those things which he himself needs in his business of play and self-expression, and his doing and making must be co-ordinated in every way with his learning. He must pass through the experiences of food-getting, fishing, hunting, domestication of animals, and agriculture. He must know something of the arts of preparing clothing; of the treatment of hides and furs; of weaving blankets, and making covering for feet and head; of ornament and decoration; of the making of utensils, weapons, idols, and pottery. He must feel in his own life the struggles of the race in providing shelter for the young — how they progressed from caves, tents, and huts to

their present forms of dwellings. He must catch enough of the spirit of the primitive industries and arts to imbibe their educative values. Especially does education need to take the child back to the occupations connected with the tilling of the soil. This is the great foundation of all the rest. Life is based upon it, and especially in our Aryan peoples has the agricultural idea played a great part in the education of body and mind. All this is still very inadequately represented in our schools. We have been so afraid of teaching the child trades that even the most general aspects of occupations have been neglected, though the interests of the child demand just such a culture.

Two types of modern adult activity furnish excellent ideals for an education that shall be true to nature in the ways just demanded—the colonial ideal, and the ideal of the general farm. Many suggestions could be found in the country life of two generations ago for the industrial work of the school, especially in the earlier grades. For a certain stage of boy life it is the best environment ever realised in history. It combines physical training, industrial training, and technical elements in good proportions with the civic and religious. Children take the deepest interest in the activities of country life, and the multitudinous and diversified industries of the old-time farmer are unexcelled for stimulating the child's mind, and for the production of sound health. The reproduction, in the modern school system, so far as possible, of the elements of this stage of industry would be the ideal industrial education, far better than anything that has

yet been produced. To the extent that the school must fail in this respect it falls upon parents to understand the great natural love of the child for country life, and to try to provide every possible opportunity for vacations and excursions into the country.

A second ideal, the colonial, is peculiarly suited to youth in the early years of adolescence. It is the ideal of our forefathers in their first century in America. It is dominated by the spirit of self-reliance and progress, a willingness and eagerness to push out into untried fields, and a sense of power and plasticity to meet all kinds of conditions. If the industrial training of the child during his early years has been what it ought to be, this is the spirit in which he will arrive at the age of adolescence. This is especially the spirit which is most needed to carry on our great industries of to-day and the greater the abundance in which we can create it the more secure will we be as a nation in industrial competition. Something more than a training in skilled movements is necessary. It is the continual emotional and instinctive response to what is deep and fundamental in active, efficient, industrial life that is most needed, and which can be produced only by an industrial ideal grounded in the child's love of out-of-doors, and of productive activity carried on in the spirit of free play. We need the industrial ideal throughout the whole school system. The right industrial training stimulates the instinctive powers of the child as nothing else does.

But it is not only from the standpoint of the development of the child as an individual that we must



consider the problem of education for and by means of industry. The needs of society must also be taken into consideration. Our educational system has failed to make progress in step with the changes in industrial conditions outside it. In the industrial world new methods appear almost daily, and it is all filled with the spirit of eagerness and push. It demands the best energies of most of our people, and sets conditions, to succeed under which, an ever more complete specialisation is required. Yet our school system continues to teach with special reference, not to the many who will be absorbed into this industrial system, but in the interests of the few who will go on to higher education. After the fifth or sixth grade our whole effort is to fit for clerical positions, rather than to provide for the needs of the great masses. The child's native interests in constructive activity are rather suppressed than developed. This is partly due to a needless horror we have had of utilitarian results in education, which has led us to give relatively too much attention to purely cultural values, even in the face of the fact that we know almost nothing of the effects of culture, nor how any general ability may be trained, nor whether the power acquired in studying one subject may be transferred to another. So the school has grown more and more away from life, and has become more inactive as life has become more active.

Another cause of the lack of adjustment of the school to the conditions of real life is that we have believed there is but one best way of educating a child, and one body of culture materials upon which he may

be raised to intellectual maturity. It is precisely the opposite view which the industrial idea demands and teaches. It is certain that there are many ways of educating a child, and many different bodies of culture material, all perhaps equally good, or each suited especially to the needs of one class of mind or type of social order. The method of knowledge has no especial claim to a supreme place. It was suited to an earlier and different stage of life than our own. Industrial schools have demonstrated completely that quite as high a grade of intellectual work is required in training for industry as for the professions, and they have helped to rescue us from the inconsistency of preaching the dignity of labour, and refusing at the same time to consider its elements worthy to be taught in our schools.

The need of industrial training is no mere demand for the introduction of a topic into the curriculum, but it involves a reconstruction of the whole spirit of our educational system, from the bottom to the top. In fact, without a better industrial education, we cannot long hold our place as a nation. We have depended in the past upon our resources and abundant fertility, both in population and in products of the land, and upon our high protective tariff. We have been wasteful of everything, and have failed all along the line to utilise any of the results of the sciences that might have been so helpful in the world of business and industry, and which we must now use.

To meet this need we must first have a differentiation of schools. Various schools might be organised in

such a way that each would lead toward some one group of industries. We must provide all opportunity for selective interests, for giving scope to special ability and inclination, keeping youth in touch with real life, and at the same time making training truly cultural. There must be many kinds of courses and schools, technical and every other kind of industrial institute, open day and evening. We greatly need, too, vocational experts who, by studying the capacities of individuals, will help to eliminate the waste in human energy now so prevalent, and to bring the young more successfully to the stage of citizenship and self-respect which comes only through self-support. A great many difficulties and problems are involved, in the ever-earlier vocational efficiency and choice of occupation that is demanded. We must learn how to accomplish this without conflicting with our American ideals of culture; we must discover how to bring early to the child the very latest results in the many fields of industry, without, in so doing, violating the steps of development. We must learn how to give the best of the new while retaining the best of the old. We must plan how we may prevent from lapsing to unskilled labour the half-educated boys who leave school at about fourteen, many with vocational tendencies but without sufficient intellectual interests to carry them on further than the point at which the school has left them.

Another problem is presented because modern specialisation and utilitarianism have removed from the life of industry so many of its humanistic and

cultural features. In the old days of the guilds every man was an artist, and his work, possessing more contacts with life, requiring more varied activity and knowledge, was a true education. It is these elements that our education for industry must provide, at the same time leading the child to a higher degree of special efficiency.

There is no need, however, of failing to find cultural materials enough in teaching industries. For, given a strong vocational interest, a great wealth of knowledge can be vitalised by it. It is surprising, indeed, to see how wide a range of facts, laws, and principles, useful in learning a trade, are also of genuine humanistic value and interest, and at the same time fundamental for scientific knowledge — how intellectual, in a word, a thoroughly trained artisan must be, and how ideal an educational situation it is when such a trained man is brought into close contact with eager youth.

There is great need still, in all these industrial fields, of the right literature for the young. All of the trades are rich in cultural value and human interests, and need only the right presentation to be stimulating to the mind. We need books on each of the leading trades. Such books should give an intelligent view of the whole industry in all its relations, in such a way as to be intellectually helpful. Once gathered such literature might be used in all industrial schools where the trades in question are taught. It would help to arouse something of the old guild spirit, and to make the labourer more loyal to his task.

Room must be made, too, in our educational system, in a much larger way than at present is done, for the teaching of business. Business, in one way or another, now occupies most of all adult thought and activity, yet there is no adequate preparation for it, nor introduction to it, in our school plan, and particularly its charms and mysteries are entirely passed over at those times when the youth is most susceptible to such influences, and is willing to learn from books. Indeed, the school seems rather to shelter the child from contact with the busy world than to give him an insight into it. The school, however, need not be blamed entirely for this lack of contact. Business has neglected its opportunities to interest children. It should recognise its own cultural and humanistic values, for every business has them, or it could not have survived, and have held the life-long service of its workers. Corporations must study the human life which they handle and know it as well as they do the other materials with which they work. They must be educational institutions. In many kinds of business there are problems as educative as anything we teach in the schools — advertising, buying and selling, and many other great activities of trade demand a high degree of intellectual capacity.

Commerce and trade perhaps require the most general of all educational preparation, both theoretical and practical. The student of business must not only learn from books, but he must be kept in contact with actual life at every stage of his progress. The departments of business in school and college must catch

the spirit of the world outside and be receptive to every new idea and method, constantly expanding to receive everything valuable. The business course, above everything else, must never remain fixed and stationary.

Education for the farm is another broad and important field of the new education. It must have at its base a love of nature and of the country, and a just valuation of city life. A step in cultivating the right spirit is the school garden, which is physically, morally, and mentally beneficial to children. But the spirit and enthusiasm, so aroused, must not be allowed to die out, in the secondary school, as is now the case. We need to keep it alive and build upon it an interest in the problems of practical biology, which play so great a part in life. All education for agricultural life has the advantage that it goes back to old phyletic roots. We must make the most possible of these native forces. The modern courses in the agricultural college are likely to weaken the fundamental instincts which draw youth to the country, and even to alienate them permanently from it.

The problem of teaching trades to women is another of the great and difficult questions of the day. Teaching trade and teaching domesticity are diametrically opposed to one another, demanding opposing ideals and methods. The latter is general, all-sided, and evokes the whole personality; the former is special, demanding usually one or a small group of abilities. The fundamental industry of woman must be domestic life, and we must raise the dignity of this

and make it central to everything. We must teach the dignity and values of the art of cooking, its relations to science, its recapitulatory phases. We must create such a new ideal of domestic life that the girl who arrives at the middle teens without a practical knowledge of cooking, sewing, laundering, and the care of children will be regarded as unprepared for life.

**Manual Training.**—Manual training cannot be marked off definitely from industrial training, and in an ideal system of industrial education, it would be absorbed. We can define manual training, as at present conducted, as motor education, without reference to specialised occupation. It aims to be generic, and to train hand and brain in a general way. So it is an important movement in education and is based upon sound principles. It teaches motor control, and it stimulates interest in many children, to whom the less active tasks of the school do not appeal. As compared with most of the work in the school, it has the advantage of being definite and objective. Instruction and criticism can be made precise, and the child can at once see his failures and limitations. There is nothing he can conceal, and it leads to an appreciation of good, honest work.

Yet, considered from the genetic point of view, most of the present manual training seems narrow and inadequate. We must not think of it as a final stage, but as a beginning, the chief service of which, so far, has been to shatter our idol of purely intellectual education, and its corollary that nothing useful must be

taught in the school. At present, the manual training is not sufficiently liberal and humanistic, and it does not connect well with the later stages of school, nor with practical life — and it is likely to leave an impression that work is monotonous and pedantically accurate. All these errors and limitations result from failure to recognise sufficiently the genetic steps in the child's development, and the phyletic impulse behind all natural activity. The Sloyd work, for example, is centred too much upon accuracy, and emphasises excessively the feature of training, and too little that of usefulness and interest from the child's point of view. Its teachers are too often formalists. They try to lead the child through a number of carefully graded steps, and their systems are open to the same criticism that all logically arranged curricula are. They put too much stress upon method and formal discipline, train too limited areas of the brain, and do not represent at all adequately the three hundred manual occupations of our present industrial life. They have not begun, as they ought, with the study of the great fundamental types of human activity. They have used too limited a range of materials, and because they have not gone back to beginnings they have failed to take advantage of natural interests, to stimulate the mind broadly, and to connect with other interests, especially with science, which is quite as closely related to the constructive interests of the child, as to the practical life of the adult. In a word, further development must go on from the point at which present methods have most failed, and arouse the very deepest



instinctive interests, in order to make manual training not merely an education of the hand, but of the whole individuality of the child. It must be extended in two directions, toward a broader mental training, and toward practical issues in the industrial life. Whatever the work may be, these ends must be kept in view. In such work as basket-weaving, for example, we must make the manual work contribute to mental growth and appeal to deep instincts, just as it did in the savage, who has often woven into his work story and legend, symbolism of plant and animal life, and even his own history and inner life. Manual work must be directed not merely to producing mechanics nor to training mental faculties, such as observation; but it must connect with the most vital needs of technicians, business men, scholars, and professional men. So considered, it is full of promise.

A manual course should begin with rough work, with at first much practice in measuring, and the making of measuring rods and other simple tools. In connection with this, some elementary mathematics could be introduced. Then might come work with the wooden square and compasses; next such work as the mortising of cross sticks, as in the making of kites, and so on to finer and more skilful work. It should all connect with the native interests of the child, and be suited to his stage of motor development. The making of something the child wants should be the first principle. Therefore in the first years the construction of toys may well be the centre of all the work. Many materials should be used, and a great variety of

objects made. Much activity similar to that of primitive industries may be introduced, for much that was once done for practical use now appeals to the child as play. At the stage in which kites are dominant much can be made of this interest. Books on the subject should be read, and the child's mind filled with whatever knowledge is relevant, such as the story of the conquest of the air, and many scientific principles. Tops may be made the subject of another stage or chapter in manual work. They appeal to practical interests, and also form a nucleus about which some of the most fundamental principles of physics can be grouped, leading to an understanding of vortexes, atoms, stellar systems, and the like. Another interest, strong in boys, is in fire-arms. The story of gun making, and the history of weapons generally, should go with this, for it is a deep interest in the boy. Another excellent field is the making of puppet theatres, for this connects with literary and historical interests in a natural way. Magic is another good point of departure. There are also splendid resources in photography, and in the whole field of inventions, glass blowing, and plumbing, the last connecting well with problems of biology, physics, and chemistry.

In the high school, or higher grades, the work of manual training should centre about the scientific work of the school — chemistry, physics, and biology. The important principle here involved is that scientific instruments are more generic than machines of any kind, and the making of them requires more fundamental

principles. They deal with basic laws of motion, and not with special principles. Therefore they are suited admirably to the age of adolescence, in which the science and activities need most of all to be kept in the generic stage. The making of toys and kites, the study and practice of photography, and similar problems may still be an interest. The arts and crafts movement contains a principle that needs to be emphasised in planning the manual work at the time of adolescence. The purpose of this movement is the idealisation of the arts. It is this appeal to the æsthetic feelings which makes it of special importance at adolescence, for thus the industrial arts may be connected with the higher sentiments, and the motor interests may be carried on up through all the range of the feelings. This is the time when ideals of work and art sink deepest into the mind, when the youth is susceptible to the influence of all models, and capable of storing up impressions which can make their appearance in active form only later. At this time, therefore, the efferent side of training, the expression and production, should not be carried too far. There should not be precision and technique, so much as self-expression in those forms of activity which are most natural and easy. Thus ideals will become fixed, and broad lines of interest established. The first and guiding interest on the part of the educator must be then as always the needs and nature of the youth, and not the requirements of the art nor the perfection of the product — a point at which many of the advocates of art for youth

fail. Their interest is too strongly centred upon the ideals of the art, and too little upon the nature of the child.

**Gymnastics and Athletics.**—Gymnastics and athletics represent the most conscious effort on the part of education to find a substitute under the abnormal conditions of city life for the old order of body-training, which man had in a state of nature and more primitive social conditions. It is certain that neither the free life of the child out of school nor the ordinary motor occupations of the school properly train the body, nor do they establish health such as must be acquired in youth if later life is to be normal, strong, and efficient. At some time in the future an industrial education such as has just been described may do this, but this is perhaps a far-away ideal; in the meantime there is a serious problem in the motor life of the school child.

There are now a great number of physical culture schemes and systems but all together are not adequate to cope with the bodily deterioration that has resulted from the changed industrial life. The need is for a revolution in all motor training of the young. We need a new philosophy of health, and a great leader of a national movement of physical education. Especially to adolescence would such a reawakening of enthusiasm for the motor life come as salvation. The ideal must not be merely athletic, a wide-spread interest in games and sports for their own sakes, which is a danger of our present interests, nor in the development of champions and experts, but what is wanted is a

general popular interest in body culture, and a means of effectively raising the standards of the motor life of the whole community and nation, and so well that the benefits will be passed on to future generations. A system of health culture which can do this must be fundamental, and must appeal to deep motives, far more profound than our interests in our national games, and the athletic ideals of college and athletic club. Ethical and intellectual motives must be brought in, and the highest philanthropic and parental instincts aroused. Physical culture must become a university and college study, on equal footing with all others, and only thus will the proper influence begin to come from above downward to direct the whole movement. There must be specially trained teachers for all the grades and degrees of the science of physical development.

There are in the field at least four partial and somewhat distinct ideas or ideals of physical culture, each strongly represented by enthusiastic teachers, but no one alone, nor all together, nearly accomplish all that is needed. These are: (1) the perfection of the body as a mechanism; (2) complete volitional control of the body; (3) economic posture and movement; (4) symmetrical development. All these fail to give us basic principles.

Whatever the principles of physical training may be in detail they must be essentially biological. Training of the body must follow the general laws of mental and physical development of the child, and must be based upon them. The interest and the needs of the

growing child must be the guide, and the spirit of it all must be that of play. Play is both mental and physical activity, and it is just at this point, in the lack of mental incitement, that so many of our physical culture methods are unnatural. Play is the ideal type of physical activity for the young and in it may be found all methods. They must all be play-motived. Play is the inner force that takes up mere exercise into a larger whole and co-ordinates it with all other activities of life. It alone provides fully for the higher moral and mental needs that must be met in an ideal physical culture system.

It is from this standpoint of directed play activity that all the problems of exercise, both in the lower and the higher grades, must be considered. It is from this standpoint, too, that the athletics of the higher grade must be studied, as well as the school activities of children. Athletic work, thus conceived, is a regulator and trainer, not only of the muscles, but of all instincts and impulses, which, without such a training, can never be normal, nor raised to the highest level. Its possibilities and dangers are both great. At the best, athletics can train all the higher motives of conduct, and all religious and moral ideals. But improperly conducted, athletics tend to help only the few who participate, and not all of these; and elements of professionalism and low social ideals enter. The aim of all such work in the college must never be lost from sight. Sport is not for its own sake, nor yet for the glory of the college; it is a practical means of bringing youth to complete manhood. All students

must be reached. Physical ideals must be made to effect a harmony of body and mind, extending even to minor manners and deportment. The culture history of athletics needs to be worked over, and utilised in teaching. Colleges should offer courses in a very broad field of hygienic studies, in which physical training is the centre. More must be made of all interests, such as the military, which contain possibilities of health culture and morality. In this way the intellectual and the athletic interests would be combined in a natural manner. Properly directed, the desire on the part of the young to be healthy, strong, and beautiful is the greatest of all incentives to all kinds of strenuous effort, both mental and physical.

REFERENCES.—22, 44, 51, 73, 112, 113, 170, 176, 180, 206, 218, 269, 278, *Educational Problems*.

## CHAPTER X

### EDUCATION OF THE EMOTIONS

IT may be said without exaggeration that the feelings make up nine-tenths of life. Everywhere, where there is interest or motive, desire, enthusiasm, or habit, there is a problem of the education of the emotions. It arises in every school subject, in every department, from the lowest to the highest, and is so universal and omnipresent that we are in danger of ignoring and forgetting that the deeper things in life that condition everything else, and upon which all else rests, must be the first objects of our thought and demand our most serious efforts. We may state general principles, yet all such rules must be inadequate to express that which is almost equivalent to education itself. Feeling is everywhere the great force that drives life. To direct it aright is, in a large sense, what we mean by education.

In the problem of the education of the feelings it is the great principle of recapitulation which, as in other departments, points the way. The child passes through racial stages, and he must be educated at each step with reference to the stage in which he then is, and not according to the ultimate goal to be reached. Emotional traits that appear undesirable from the adult's point of view, when considered from that of



genetic psychology, are seen to be normal and necessary. We may, in one way, approach the problem of training of the emotional life by following out this view in its application to the education of the primary feelings, such as pleasure, pain, anger, fear and the like. Yet what this gains in definiteness is more than lost again, if one should be content with any such principles as an adequate pedagogy of the feelings. It is rather in those higher states of feeling and thought that make up our moral, our religious, and our æsthetic experiences that we discover the full significance of the feelings, and the challenge they offer to all our resources of intelligence and pedagogical power to cope with them. What follows is the application of the recapitulatory principle to a few of the more concrete and definite aspects of an educational problem which, as a whole, must, from its very nature, be the most varied, subtle, and universal of all, involved in everything we do for the child, at many points baffling, and demanding far greater knowledge upon the most common themes of psychology than we yet possess.

Pleasure and pain have been the great educators in the world — a truth which in the present artificial conditions of life we are likely to forget. We minimise pleasure and regard pain as wholly evil and to be eliminated, thus violating nature. Children must not be too much protected from pain and hardship. Without painful effort the mind and body degenerate. There may be too much protection against cold, and even hunger, for all the feelings must be strongly

stimulated, if all possible values of racial experience are to be preserved.

**Fear.**—We have seen that, though fear has been necessary to the race, it is now, in the present conditions of civilised life, often out of relation to real dangers. The conclusion might easily be reached that it no longer serves a useful purpose, and that we should try in every way to overcome it. This is not true, for fear still performs an important function in life. The problem is not how to eliminate fear altogether, but to learn how to utilise it as an educative force. Children must be taught to fear rightly as well as think correctly, and the former is no less important than the latter. A wise training in fears would by no means protect the child against all the cruder and more drastic fears, for fear serves a much wider purpose than to protect us from danger. Fear, as the child passes through its stages, in a normal way, leaves behind it a foundation upon which higher sentiments are built; and especially the moral and the religious life would be poorer but for the emotion of fear, even the crudest and most animal-like forms of it. For out of the fear grow such sentiments as reverence, the worship of the sublime, and of the awe-inspiring. The child fears God better because he has deeply feared thunder, and because his mind has been sensitised by rude contacts with all of nature's threats. And were all fear wanting, a great number of intellectual motives would be lost.

One of the best tests of soundness of heredity is the ability of the individual to pass through the stages

of fear safely, and to utilise the lower in stimulating higher sentiments and intellectual interests. Capacity for fear differs greatly among individuals, and some require far more of such stimulus to arouse their activities. A too care-free and protected childhood, however, is in every case a calamity, and it stands in the way of complete maturity. Fear has been one of the chief spurs to all scientific enquiry, and it is this issue of the cruder fears into attitudes of respect and understanding that is wanted in the training of the child. This is, too, the normal basis of attention and concentration.

**Anger.**—The history of anger in the race, and of its growth in the individual, indicates that it must also be counted among the great educative forces in the life of the child, and that it must not be regarded as merely a fault or defect in human nature. It still has its uses, and it can safely be asserted that at least normal, healthy, male manhood will never be entirely peaceable. The complete suppression of warfare and anger, and the substitution of universal peace and brotherly love would indicate an end of progress in the race, and a beginning of degeneration. We need strife and its motive force anger, in some degree and form. The possession of strong passions, well under control, is the secret of the power of character, and a necessary condition for the highest mental tension which must always be the state in which the best work of the world will be done. The problem of training anger is how to make it a power, and not a waste of physical, mental, and moral energy. The child must be trained

especially against forming habits of temper, the quick and wasteful and ineffective response to stimuli, which is the opposite of the creative tension of properly controlled anger.

For all boy life anger, strongly expressed, is natural and normal. Many situations must be met with anger, that cannot be coped with in any other way. The conflicts of boys are normal, and periods of combativeness are necessary steps toward a properly balanced social life. Combat and anger teach wholesome lessons of self-reliance, and they stimulate a valuable kind of courage. To try to eliminate this natural anger from the child is wrong and comes from an erroneous idea of morality. To destroy anger in the child, and to produce cowardice, would be no gain, either morally or physically. The child must arrive at maturity with a wholesome power of indignation which he may express forcibly when the occasion calls for it. Anger has its place, too, in the adult's attitude toward the faults of the child. Oftentimes punishment, in righteous wrath, is the only effective check for faults. Its power must not be lost in a fatuous ideal of self-control and poise. The world has still a need of anger in many of its tasks.

**Social Emotions.**—Social emotions can develop normally only under one condition, free complex social relations, in which the child has many associates, and co-ordinates with a wide range of individualities. It is wrong to limit the companionship of the child too much to one or a few types of children, in the fear that he will learn evil. It is in the give and take of

an active social life that the child educates himself as he can in no other way. He should have both good and bad companions. The bad help to teach him contrasts between good and evil, and to set standards for his own conduct. A certain degree of exposure to evil is necessary for moral welfare. Of course the vicious companion must be avoided, especially during the formative years of early adolescence. Boys need some companionship with older boys, and this was one of the great advantages of the country school. In the years of adolescence, the companions of the boy are all-important factors in shaping his life. They help to set his fashions, and to fix his standards of conduct. Societies and gangs, each at its own proper period, are great forces in the life of the child, and it is quite as important to guide such social life correctly as to feed the mind with facts. In the college years, too, the life outside the classroom is far more important to the student, oftentimes, than the subjects he studies with professors. A companion admired for athletic prowess, or for other reasons, may be more influential in shaping all ideals of a youth than any other force, and the power of a single leader among young men may extend very far.

The strongest of all social motives in man is to win the good will of his fellows, and it is one of the chief problems of a pedagogy of the social feelings to understand how to train and utilise this motive to the best advantage. The effort must be to keep a proper balance, in the development of self-consciousness, between excess of boldness and too much shyness or reticence.

Vanity, egotism, and self-assertiveness are very readily produced in some temperaments, and in others there is a tendency toward shyness, distrust, and shrinking from all unsympathetic contact. Particularly in girls, and especially in regard to consciousness of clothes, the way to abnormal self-consciousness is easy. A little lack of naturalness here, or the effect of slight suggestions from others, will produce in the child a train of consequences leading to affectation and deceit. Similar impulses in the male, more likely to centre about showing off or bravery, often lead to perverted ideals of courage and honour, and even to criminality. Ignorance and injudicious treatment of the child on the part of parent or teacher are more likely to be at the bottom of such abnormalities, both in girls and in boys, than are the inherent tendencies of the child.

On the other hand, the excessive shyness of the child that leads to the fear of all strangers is a serious problem. Any fear in excess greatly limits life, and social fears may stunt growth in many directions. Excessive fear in this direction exerts a harmful influence upon all motor expression, and brings out abnormal habits and automatisms. Disapproval and lack of understanding and sympathy on the part of elders will greatly exaggerate the trouble, and make havoc in the emotional life. The personality is prevented, by repression, from developing normally. All these problems of the social life are to a great extent individual. It is the problem of the proper development of individuality, the correct balance between the impulses of social aggressiveness, and of reserve, respect, and sub-

mission. Only an intimate knowledge of individual children can cope with it.

Less definite still must be at present the pedagogical conclusions about such emotions as humour — about the place of wit and laughter, ridicule, and the habits of teasing, and the practical joke. All these being expressions of fundamental instincts of the child, they must have practical bearings upon his education, and possibly far more than we as yet know are controllable. That ridicule and sarcasm, rightly directed, have a value and great pedagogic effect upon some types of temperament seems certain. Laughter has arisen in part in connection with the joy of conquest of enemies and the destruction of prey, and from this it has been taken up into the expressions of the more indirect modes of disposing of opponents, and the elimination of the undesirable. Excessive egoism is thus kept within bounds. Ridicule implies a sense of superiority and it is a powerful weapon in educating the social consciousness. The victim is abased, and must re-adjust his self-knowledge and self-valuation. Thus society resists the invasion of undesirable variations. Much can be said, too, in favour of the practical joke, both as a quickener of dull minds, and as a salutary influence upon those having a premature self-importance or too great conceit. The practical joke is war, cruelty, torture, reduced to the proportions of play.

**Pity.**— The same arguments may be applied to the emotion of pity, as to anger and fear. The sentiment of pity is often so overdrawn in those who are very sensitive to it, it so often spends itself in mere feeling,

so readily becomes weak, morbid, and effeminate — and in general shows so plainly that it is an emotion out of harmony with the real needs of life, and with the best means of assisting those who most need help that it is quite natural that it has often been looked upon, as anger and fear have been, as a defect of human nature, as a hindrance rather than an incitement to effective action. Yet this is not an adequate account of the function of pity. Perhaps the best of all methods of rightly exercising this sentiment in education is in the training of those sentiments directly connected with parenthood. The right attitude toward the infant and growing child is the best altruism, and education should include the conscious effort to bring out these parental instincts, and to train them in definite forms of helpfulness. Without a wholesome sensitiveness to the emotion of pity, it is impossible for the religious life to be brought to complete fulfilment. Christianity is based in part upon this sentiment, and the very centre of the New Testament lesson is one of pity. In fact the closing scene of the life of Jesus is the masterpiece of pathos of all history.

Right direction of altruism, therefore, is a deep and important problem of education. The legitimate expression of pity is in some act leading toward the relief of suffering. To learn to pity thus actively, where moral insight shows duty, is the task to be accomplished. The defect in the sentiment of pity in its social aspects, and in its development in the life of the individual, is that it goes out relatively too much to that which cannot be remedied, and thus expends itself



without practical result. We need a change of ideals in this regard. The function of pity is not so much to cast painful glances back upon the past, as to make smooth the future. The things most worthy of pity are the hardships of youths which stand in the way of their arriving at the highest maturity, and fitting themselves to increase the hereditary values in the world.

**Sexual Emotions.**— It would be impossible to overestimate the importance of the pedagogy of the sexual function and its emotions. The sexual life is connected in the most intimate way with every other part of life, and no theory of education can be well-grounded that does not recognise its central place. There is much more sex preceding puberty than we have been accustomed to think. Only a part of the original sexual factors are organised to conserve the function of procreation. The rest make up the greater part of human interests and effort. Important at all times, it becomes of the first consideration at the time of puberty when the proper education and control of this part of the emotional life is absolutely necessary for the sake of the higher functions dependent upon it. It is safe to say that most that is best in life after puberty is secondary sexual in its origin; that is, is an outgrowth of the sexual life of the race, and that the best development depends completely upon the normality of the primary function of sex. Man has civilised himself largely by a conflict with his sexual nature, and considered from this point of view, sex has been of the highest importance for national growth and prosperity, for morals and religion. When we

understand how deeply the sexual life is involved in everything valuable in life, how many and how serious are the disturbances to which it is subject, how insidious the suggestions that assail it from many sources, it ought to be plain that no single remedy nor pedagogical measure can be applied, but that the best of wisdom must constantly be brought to bear upon the problem. We do not yet fully understand the depth of the problem of sexual education.

Sexual education must begin in infancy. All hygienic measures in regard to clothing, bathing, correction of local disturbances, must be attended to scrupulously, and there must be constant watchfulness for wrong habits. In general, all excited states must be avoided, even in the nursery. There must not be excessive fondling, and especially stroking and patting that tend toward culminating sensations are to be avoided. All intense spasms of feeling are bad for the sexual life. When ability to understand the meaning of reproduction comes, the parent's duty is to see that the child's first knowledge is not obtained from evil companions, and that all the future thoughts of the child about the origin shall not thus be connected with shame, deceit, and vulgarity. The power of an idea in the life of a child is very great. It is unmistakably the duty of the home to be the first instructor in sex. The aim of instruction is to forestall evil, and not to cure it. As early as eight or ten there should be definite information about sexual matters, though of course information beyond the years should not be given. Right knowledge has the effect of keep-

ing the stages of growth normal and of preventing mental injuries. For the girl, emphasis must be always upon the function of child-bearing, so that later the thoughts of love shall never be separated from thoughts of motherhood. It is best that an introduction be made through myths of the creative life at a very early age, later by observation of fertilisation in plant life. The teaching in regard to the maternal function should always come first. The study of lower forms of life is best. There will need to be much individual variation in the teaching of this difficult subject; much will depend upon the temperament and surroundings of the child, both as to the manner and the time of teaching. In general, it seems best that such lessons be brief, and that much care be taken to select moments when the mind is favourably disposed, and the relations between teacher and child are sympathetic. All children, we can now claim, should have such instruction before they go to school. Normal schools should prepare teachers to give this knowledge to pupils who need it, for if the teacher understand the nature of the dangers involved, she can do much to prevent moral contagion, which is all too common among school children, and to keep the social relations of the child wholesome and normal. Young children must by every means be led toward natural and wholesome inter-sexual relations. Association in play between the sexes is very important for both boy and girl, for the foundation of many interests and virtues can be laid in this way and in no other.

If instruction in sex has been rightly imparted be-

fore puberty, sex knowledge will not burst upon the child at the moment when the new impulses are developing, and the mind is peculiarly susceptible to harmful influences. As this period approaches, more indirect methods of controlling the sexual emotions must be relied upon; for, at this time, when the sentiments are budding and ideals are forming, any rude presentation of the fact of sex may do great harm, causing morbid phenomena, and even perversion of instincts. Now as the pubertal stress approaches, preparation must be made by stimulating and getting ready those interests, the effect of which is to control and transform the primary passions. Of all these means the ideals of physical perfection lead. All vigorous motor activity is a means of control. Every intellectual interest is also a sedative of sex. Music, indeed all art, and all industrial interests also perform the function of irradiating the sexual life and taking it up into higher enthusiasms and tensions. In a sense the whole problem of sexual education at this time of life is to raise the lower to the higher enthusiasm. Merely to control and check by will is often a wasteful method, but to control by directing energy into new channels uses power to advantage. Often the value of training in the technique of an art, acquired before puberty, becomes apparent only after the onset of maturity, when the art becomes the vehicle of expression of energies that would otherwise find vent in a low form. Therefore everything related to sex as secondary characteristic must be trained. Deportment, manners, dress, ornament, personal loyalty,

friendships, the sentiment of honour, the nobler love, ideals of body keeping, love of rhythmical movement, religion — all these may be regarded as substitutes for the sexual instinct, and must be cultivated in the right way, as means of control of passions, and of bringing the youth over the trying period in which he is struggling to make his way toward the higher civilisation. Whatever, in any way, helps to keep the sexual functions normal, also aids in making good ideals and keeping interests strong and sound. But if the sexual life be perverted it is impossible for these irradiations to be strongly motived, and the individual will fall short of complete maturity at some point.

As to direct teaching in regard to sex, the problem is much more difficult during adolescence than before. Yet all now admit that some such instruction is necessary. Girls need to be taught plainly the physiology and hygiene of the functions that are now being established, and there must be careful investigation of personal needs and habits. All lessons must be plain and sensible. Young people must be made to understand clearly that many coveted prizes depend much upon correct sexual habits. The teaching of morality, and especially religion, has now a day of opportunity. It is important to connect the sexual life with the religious, and it can safely be said that religion serves now to save youth from sexual temptation, more than any other purpose.

We are not yet equipped with adequate literature to meet the needs of sexual instruction. With this theme as a centre a vast amount of scientific knowl-

edge and general culture could be conveyed. There should be text-books graded to age, dealing with sex as it appears in botany, and in zoology. We need books on such subjects as the history of marriage, divorce, the relation between religion and sex, and many other related topics. Especially should we be prepared now to teach to all youth in high school and college, the main principles of eugenics. This is able to elevate the sexual impulses, to give new interest in the higher altruism, which is the service of humanity, and to arouse enthusiasm for all the deeper problems of history and sociology.

REFERENCES — 112, 128, 172, 192, 194, 196, 203, 254, 260, 271, 285, E. P. See also references at end of chapter on moral education.

## CHAPTER XI

### MORAL EDUCATION

MORAL education is the most vital and most difficult of all the problems of human culture. It is a problem, not for educators alone to solve, but for the whole nation. In a sense all education is moral, for the end of all teaching is to complete the moral growth of the child, and to impart to him the moral ideals of the race. No knowledge is merely for its own sake, but all must in some way affect conduct. All conduct, too, is in some sense moral conduct.

Moral education, therefore, cannot be compressed into a single formula, as though it were a training of some one emotion or habit. It must touch life at all points, recognising that its work is to train a great force, which, as enthusiasm, can be turned into many different channels. Every institution must take part in this effort. Besides the school, we need many other agencies. We need a reformed theatre. We need gymnasia, holding up high ideals of physical perfection. Opportunity for an abundance of wholesome social life must be provided. The church must perform a more active part in moral control, and become more practical. We need, indeed, a synthesis of all the agencies that make for moral welfare, knowing

that the problem is nothing less than that of conserving the most precious of our resources — the moral enthusiasm of the young.

Moral training must begin in early infancy. We must recognise the fact that physical hygiene is the basis of all later morality, and that the establishment of good habits of sleep, feeding, and the like is quite as much a part of moral education as anything that will follow. In many other ways the mother's early influence upon the child, her caresses, and the example of her emotions and temperament, contain possibilities both of good and evil for the child. She very early impresses strongly her type of behaviour upon the infant.

Soon the question of obedience arises, and here another critical situation for all the child's future life appears. The child must be taught to make immediate and unfailing response to the demands of the parent. Reasons must not be given, but the child must be made to feel that he must obey simply because the parent wills it. The parent must be the infallible moral law, and his word be inexorable.

Usually before the school age the question of truthfulness will arise, and this may be regarded as typical of many problems of the moral life. Truth-telling is a complex virtue, and depends upon several different motives, some of which come late. We must understand that different kinds of lying have very different moral significance, and that lying differs in gravity at different stages of childhood. The most common and least reprehensible lie of the child is the



imaginative lie, the failure to tell the truth because the world of the senses and the world of the imagination are not yet clearly differentiated from one another. In most children this spirit needs to be stimulated and encouraged, rather than repressed. It is the normal mode of expression of the feelings in the early years. Such romancing contains the healthy buds of art and literature, and constantly to repress it for the sake of accuracy is wrong. It is natural, too, for children to have more than one standard of truth, to maintain one code for friends and another for enemies. Loyalty to persons is a strong impulse, and it comes long before loyalty to truth as an abstract ideal.

But there are other and less desirable motives of falsehood. There is the lie for self-protection, which must be eliminated, though the child must not be forced into a morbid confessional habit. Every child needs to have a domain of life all his own, sacred from intrusion. Too rude invasion of this, in order to make the child frank, will have the reverse effect, and will make him untruthful. The lie for personal gain, and from an excessive desire to excel or gain favour must be crushed out, for later this impulse to play a part, and to assume a place for which nature has not intended the child, may become the source of the gravest peril to the moral life. The school in some respects encourages untruthfulness of these undesirable kinds, and with the beginning of school life new motives for lying arise. An unnatural habitat is established for the mind. The school demands standards not suited

to the child. It fosters undue fear of authority, which is a direct road to deception, and so oppressive may this authority become that the teacher is regarded as legitimate prey for deceit.

There are many means, direct and indirect, of establishing normal truthfulness. Training in observation and exact report may be mentioned. Whatever, too, gives the child a definite conception of a task, and teaches him to face it squarely—such as work in manual training—favours honesty. A school content that is rich and satisfying to the mind helps, for then the child is not tempted to eke out his experience in unwholesome ways. Later the best safeguard will be the stimulation of a passionate love of knowledge. At all times both parent and teacher must set an example of truthfulness by keeping every promise and threat, and by avoiding every suspicion of duplicity, deceit and casuistry.

Similar thoughts may be applied to other impulses, instincts, and emotions. We must not guard the child too closely from a knowledge of evil, and from bad companions. All kinds are needed to give breadth of moral experience, and to allow the child to form standards of good and evil. We must not seek after perfection, which is not only impossible, but undesirable as well. Most adult standards of virtue for children are unnatural and violate genetic principles. They tend to repress good qualities. Much of childhood's fault is merely animal propensity, which does not in the least tend toward immorality if the environment be normal. The child through his own inner

forces will transform such faults into virtues. He must be allowed to live out a natural life, and a too early appeal to conscience is a mistake. We must not continually preach morality. It is a mistake to assume that the child has a mysterious inner sense or conscience that tells him unerringly what is right and what is wrong. The moral life is no such simple unit as this would imply. It grows in spots, as it were. The individual is very complex, and his conduct is the result of many strands of impulse and instinct acting together, not always in harmony. He tends to pass through stages of moral development, in which the later and higher sentiments, and all the abstract virtues, are dependent upon the proper functioning of the lower instincts and habits.

The methods of keeping the growth normal through these pre-moral stages must be many and broad. All the natural impulses and interests of the child must be directed and given moral impetus. There must be talks upon such homely topics as fair play, teasing, dress, anger, chums, honour in class, white lies, affectation, cleanliness, order, honour, taste, self-respect, treatment of animals, choice of reading, vacation pursuits. This is practical conscience building. If all these and other such practical affairs of the child are not regulated, higher moral habits will not be established. Teaching of morals must be broad, inductive, and to a certain extent experimental — and always individual.

In the special teaching of morality use must be made of much of the ethnic literature. The moral stories

of the Bible come first, or perhaps preceded by stories from the more primitive ethical systems. Use can be made of the lives of the Saints, classic and Hindu mythology, German tales, and stories from history and biography. Another resource is the learning of maxims and short moral classics, which may be made one of the most direct means of teaching morals. The moral force of pictures must not be overlooked. Whenever we can substitute a picture for an abstract truth, we are doing a work of economy. The good picture always touches some moral point, and presents an important aspect of life. Every moral sentiment that has typical expression in action lends itself to this mode of inculcation.

Underlying all the teaching of morality, early and late, there must be evidence of a belief in a power that makes for righteousness and hates unrighteousness, and that in the end will punish the wrongdoer. This should be made a part of the child's attitude toward his whole world. Morality, in other words, always needs religion. Without religion the teaching of morals forces conscience to a too early maturity, and makes the moral life narrow and shallow. Such teaching does not reach the depths of moral force in the individual. Our traits of character, it is likely, are inheritances and selections from remote animal forms of behaviour, and it is the deepest strata which are the least amenable to our ordinary methods of instruction, and which demand the stirrings of religious feeling. All these depths must be sounded, and all external authority, divine and social, must be appealed

to, with the assurance that every legitimate method we may use will be needed in coping with the problems of the moral life.

The time comes, finally, in early adolescence, when the child must take over the management of his moral life into his own hands. This stage does not declare itself all at once as a complete change, but maturity of character appears in different parts of life at different times. Only gradually, therefore, can control be relaxed, and the new order be allowed to have its way. The right method is now a change from direct to indirect moral teaching and control. It is a time of moral danger, when neither inner nor outer forces are quite adequate to cope with the situation. Yet this period of moral flux must not be forced to too immediate an end. Self-conscious and spasmodic effort on the part of the youth at this age to adjust the moral life to standards only results in making character narrow and lacking in depth. The effort must now be to guide and suggest in all fields of activity. Everything must be kept normal and wholesome. Home life must be made attractive, and must furnish a good moral environment. All intellectual, social, athletic, and æsthetic interests must be made to lead to moral development. All the previous ethical teaching must be brought to a focus, and given a personal application. Religion is needed. It is a time to present ideals and principles, but these must appear closely related to the interests of daily life. Now, too, is the time when personal guidance is so much needed, when both boys and girls require close companionship with

wise elders, with whom they may talk about the great problems of life.

We need two concrete courses in morals, one for the high school, another for the first years of college, and for these material is now available in the new departments of ethics, sociology, and psychology. The need of the youth is to study types of virtues, rather than types of ethical theory. He must see the elementary virtues embodied and portrayed in types of human character. Teaching that is purely moral must often be suppressed, but the moral intention should always be uppermost.

This work in practical morality should begin with personal regimen and hygiene, and should comprise the study of diet, exercise, and care of the body. It should include, also, such topics as dress, ornament, and etiquette. It must treat the deadly sins and the cardinal virtues. It will discuss temperament, habit, character, livelihood, citizenship, example, self-respect, self-control, unselfishness, honesty, fun, ambition, method of study, duties to self, duties to others, duties to state and church, and it should end in a few wholesome lessons concerning purity, marriage, home-making, fatherhood and motherhood, and duty toward the next generation. All such moral lessons must be illustrated freely from history, literature, and life; appeal must be made to the religious instincts, and also to prudence, to common sense, and to honour.

Thus the moral teaching in adolescence may be made to centre about three great general themes, which all together form the core of all morality:

health, honour, and mastery or loyalty to life's task. Morality rests upon the first, health. All great human moral achievement has been based upon it. Honour represents the attitude of loyalty to the interests of the race. In the normal youth it is spontaneous and automatic. It can be appealed to universally without argument, and can be made the basis of all teaching of altruism, sexual purity, and courage. Loyalty to task represents the latest and most complete virtue. Every person must do something which represents his whole personality, which is his deepest interest in life, the doing of which is his title to self-respect and place in the world. With this as a centre ideals of perfection and disinterested loyalty to task can be taught.

Another field in which we still need far more light is the influence of youths upon one another. The power of the young to inspire and educate one another morally has not yet been fully understood, much less made use of in the work of secondary school and college. The athletic leader, especially, is a great power for good or evil—as are all who excel in those things which youths strive for and admire. The young appeal to and listen to one another as they do not to adults. Literature written by the adolescent has a place of its own also in moral training, but this has not yet been sufficiently recognised.

Training in social morality is one of the deepest problems of education. Service is now the greatest word in the educational world. The individual is an end in himself only in so far as he is a means of

helping others. There is a change of view, even in religion and theology, for the older theism now tends to give way to a new humanism; and in the school one of the most hopeful signs is the great interest that is being taken in teaching the simple duties of civic virtue. This is a hard lesson, and to teach it well, we must begin early and teach late.

Our own country presents peculiar moral problems, on account of our mixed population, and the evils of immigration, which has moral effects upon both the immigrant and the native. The immigrant suddenly finds himself cut off from all the balancing traditions of an old life, and without the steadying influence of the new. This is a situation which we have but lately perceived, and which we have attacked in the right way by our increasing effort to conserve all the household arts, industries, family customs, tales, dances, modes of life and dress of the foreign elements in our midst. We should go still further and teach these things to native children in order that they may have bonds of sympathy with the new elements of our national life.

There is much need of co-operation between the home, the school, and the law in doing preventive work in the school, and in teaching the principles of good government and obedience to law. There should be talks on law and justice, in the schools, by representatives of the law, presenting directly and vividly to the child its problems from the point of view of its administrators; for there is no better way of bringing out, in the mind of the child, the sense of jus-



tice, which is naturally strong in him, and which is the foundation of all the social virtues. We must not emphasise too much the elements of kindness, mercy, and indulgence. It is easy and lazy to forgive everything, but to act justly requires far higher qualities of both intellect and will.

The centre of civic education is the betterment of the group spirit. We must rectify and broaden this, and, above all, prevent its degeneration. The boy gangs are the breeders of about every form of social and political corruption. It is not enough to teach merely how we are governed; the school is itself a community, and the first duty is to fellow pupils and to home. Children should know something about all the societies that have been created to help them. We should make the most of all memorial days. Social and charitable institutions should be visited. At present the life of the community does not sufficiently penetrate the school. Teaching patriotism makes wide demands upon all our resources, for it is as difficult as it is important. All possible lessons must be drawn from the flag: its songs, its salutes, its history. There should be instruction in the ideals of the peace movement, yet remembering the heroes of war. In the high school the emphasis should be upon the study of government, especially the national. This is the time, too, to emphasise the work of good government leagues, civic clubs, the ethics of taxation, obligations and responsibilities of wealth, duties of the ballot, public works, arbitration, conservation, public lands, administration, basic principles of thrift;

personal, domestic, city, and national economy. The high school pupil should hear about all sorts of public affairs.

Self government in schools is a problem of much importance. The prevailing tendency seems to be in the direction of the over-socialisation of the young. We must not, at all events, try to carry self-government too far, for it violates principles of natural growth. It limits individual adjustment to conditions, and it minimizes that most powerful motive, the attachment of the young to the authority of the adult. The loyalty to persons, it must be known, is the very foundation of the civic virtues. Therefore the danger of loss of the spirit of docility and obedience, and of encouraging precocity in social relations, must be guarded against in self-government. For the child, before adolescence, there must not be too much of this mature motive. In the treatment of boys, especially, there must be ample scope for command and obedience.

Though the problems of criminality belong to a special science, a comprehensive theory of education must throw light upon them, and an adequate moral training must cope with incipient crime and abnormality. Moreover crime and virtue, the normal and the abnormal, are not distinct and mutually exclusive classes. In everyone, especially at adolescence, there is inclination to crime, and crime and virtue often hang in the balance. The great crimes, too, demand qualities akin to virtue. Our laws and conventions do not necessarily draw the exact dividing line be-

tween the abnormal and the normal, for many laws deal with matters of expediency and convention. Besides, the legal boundary of our privileges is constantly changing; what was once forbidden is now allowed. Where growth is full and normal there is always strong impulse, often toward the forbidden. These faults of strength must not be confused with the faults of degeneration and atavism. And the latter must not be confused with the temporary impulses from uncontrolled rudimentary organs which flourish for a time, and then disappear. Many faults of the youth and adolescent must be attributed to strength of normal impulse and activity of the rudimentary forces due to adolescent upheaval of the instincts. Thus must be interpreted much of the teasing, lying, and cruelty of youth, and habits of anger, which is normally strong in the effective life, but which may readily become abnormally developed.

Both the school, in preventing crime, and the criminological institution, in punishing and correcting it, fail to reach the depths of the problem, as opened up by the genetic theory. The school, certainly, is greatly wanting in its control of the moral life. The moral power of its intellectual culture has greatly been over-estimated. Crime is not necessarily dissipated by knowledge. The school fails to educate the instincts of the child as it should, and so is inadequate to cope with criminality which is a product of the instinctive life. Criminal youth are more individualised than the normal. Virtue is more uniform and monotonous than sin; therefore the school, which is

but little adapted to deal in any way with the exceptional trait or individual, fails to reach the source of crime, which is individual and exceptional.

Acceptance of the genetic standpoints in considering juvenile fault and crime, makes it impossible to base a penology upon the ideal of vengeance. Instead of vengeance there must be treatment, the hospital must be substituted for the old type of prison, and the physician for the keeper. The keepers and correctors of juvenile criminals should be large-minded educators. They must be able to study the darkest criminality in connection with the virtues with which it is related; they must bring to bear moral training, based upon the principles of normal development. Normal growth must be stimulated, and the innate forces brought to proper balance. Special attention must be given to the sense of justice which is the foundation of morality in boys. Truth-telling must be fostered by all the resources of normal pedagogy. The training of the money sense must be introduced as the best safeguard against theft. The life of the delinquent should be made more social, and in a better way than is now usually done. Sentences must be for the most part indeterminate, completed when normal balance has been restored. Punishment must be meted out sparingly to adolescents, especially to those who are detected in slight departures from rectitude and law.

## CHAPTER XII

### RELIGIOUS EDUCATION

THE general educational aspects of the religious life can briefly be summarised thus: The function of religion is to establish and unify in the individual the highest racial ideals. The individual repeats the moral and spiritual growth of the race, and only in a completed adolescent stage does he arrive at that state of devotion to the ideals, which, considered on its biological side, is a suppression of self, in the service of the race, and on the religious side is a state of conversion or service to God. A truly religious life is, therefore, the expression of normal complete development. In it the individual comes to a safe maturity, having passed through stages of danger of arrested development, of perversion of interests and of excessive self-interest. Religion must be regarded as the largest aspect of life, or its deepest meaning; and it must be called an inner growth an expression of fundamental instincts to be good, true, and normal. The religious teacher must be looked upon as an inspirer of development in a broad sense, so broad that his aims cannot be separated from the function of any and all teaching, for everything that fosters development of the child's fundamental instincts and

emotions helps to lay the foundation of the religious life. Moreover, the course that ends in a normal religious life is one naturally taken by all, if heredity be sound and environment natural. The religious teacher does not work against nature but with it. Religion has done its work in the world because it has rightly met the crying needs of human nature. To discover those needs at any stage of civilisation we must ask, What is the nature of childhood? What are its deeper interests and real capacities? How must the child be trained in order to bring every power of mind and body to the fullest development?

The great fact to be placed at the head of all method in religious training, as in every other department, is that the child repeats the history of the human race; that in his religious life, as in everything else, he must live one stage at a time, as completely and fully as possible. He cannot be (psychologically) a Christian until he has attained the degree of development necessary for that stage of life. The feeling of worship is first directed toward objects and persons of the immediate environment. The child's mother is his first deity. He passes through the stage of the fetich worshipper and of the worshipper of nature; his attitude toward his surroundings is precisely that expressed in the animism of primitive peoples. He is superstitious. These states must be accepted as natural roots of religion, and must not be suppressed as anti-religious. Indeed a complete religious education would involve, not only making the best use of all such primitive moods, but giving the child a touch of the ele-

ments of all religions. How completely each stage should be made to reappear in the child we do not yet know. Much depends upon the breadth of the mental endowment of the individual, and the vigour of his growth impulses, but the ideal is to make the child repeat the whole religious experience of the race. Freedom of growth must be the key-note of all early religious training. Teaching, therefore, must be in a sense negative and indirect. Adult modes of life, impressed upon the child, do greater harm in the religious life than in any other emotional sphere.

Life in the country is the best of all foundations for a normal religious growth, because there the mind of the child is constantly nourished by the very experience out of which the race produced its religion. Therefore he must linger long in this stage. All the mystic and mythic tendencies of the child, which develop under the inspiration of nature, must be allowed free range, understanding that the religious and the secular are not clearly differentiated in these early years, and must not be forced apart. Anything that stimulates the child's thoughts about the unseen world, which makes him believe that nature is alive and friendly, is truly religious teaching. Whatever fosters the sense of being at home in the universe, or in any way teaches the sense of the oneness of it is leading toward the desired end. If the child repeats the history of the race, his conception of God must be a slow growth, an outcome of myth and fancy. It cannot be implanted in his mind all at once. He must first love the whole world.

Formal religious instruction should begin at home with simple stories from the Bible and other sources, with very little emphasis upon the conventional religious themes. This story-telling should increase with the age of the child, until it has covered all the important scenes of religious history, and all the great themes of morals. The possibilities of this teaching for the child's moral and religious life are so great that it should be regarded as one of the most serious functions of the home. No other institution can take the place of the home as a teacher of these themes, and if the home life is not normal, the child's religion is sure to suffer.

In all this early religious training there need be little instruction of the catechism type. We have made the great mistake, in the past, of making religion for the child too much a matter of the intellect. Such teaching loses contact with the true nature and needs of childhood. This is the same error as trying too early to base conduct upon intelligence. All such methods tend to make everything premature in the child, to force his mind away from the nature love and superstition, lingering in which, the mind may find true religion.

Slowly, out of the nature worship, fancy, and polytheism of the child comes a conception of God and of his nature as the author of inviolable law. Here again the over-zealous religious teacher may encourage precocity, by trying to teach the child too early the conception of a loving, ministering personal God. This is the standpoint of the adult. For the child



the stern, law-giving God, must be the object of worship, and the final stage must be allowed to grow out of this naturally with the change of emotional life at puberty, rather than be taught to the child.

The teaching of religion in the secular school is a difficult problem, and very important, for religion is so essential a part of life, and so intimately connected with every other function, that to neglect it, or to ignore it in teaching, is to leave out the most vital of all the elements of culture. It is certain now that the control of the religious organisation over the public school has gone forever, and that the school must undertake to teach religion. At present it can be said that the secularisation of the school has cast out religion, and that in doing this it has inevitably weakened morality, and hampered the teaching of morals, which is inseparable from religion. The result is that many children must now grow up in ignorance of the Bible, which is the greatest culture book ever written. The wide-spread view that morality can be taught without religion is wrong. The teaching of prudential morals, all secular ethics, all that makes conduct centre about obligation, good though these are, do not touch the vital spot of morality, which is rooted in religion. Children must have a sense of God as a giver of laws, whose demand is right because he wills it; and certainly at adolescence, there must be religion to guide the moral life, if at no other time. The only method now open to the school, to preserve the good of the old religious teaching, without sacrificing secular ideals of education, is to

have religion taught in the school by clergymen, each teaching the children of his own denomination. Failing this, religion as such is likely to be lost entirely from the school, and to be replaced by the inadequate method of moral teaching, depending upon literature and history for culture materials.

If the Christian religion is to be taught at all, in the school, it should be presented with the same attention to the nature of the child as is given in any other subject of the curriculum. Failure to do this has in the past robbed the child of the great good that can be gained from the literary study of the Bible. It has been taught unpedagogically, because of over-emphasis upon doctrine and, in general, upon the adult's interests. The recapitulatory principle may now correct this, and put the teaching of the Bible upon a new basis, for it leaves little doubt about the order and manner in which it should be taught. Before adolescence, the child is morally in the stage of external authority, when, indeed, all his interests tend to be objective. For this period and interest, the religion of the Old Testament is precisely adapted. Its stories appeal strongly to the child's mind. Its heroic themes, its tales of wonder, battle, law and punishment, its vividness in expression of all the elemental passions, reach the child's heart.

In teaching the Bible, much depends upon the point of view taken. We should not emphasise its literal inspiration. To do this may make children distrustful of the parents' sincerity. It takes away the naturalness, and leads to casuistry, as always in trying

to teach as dogma that which should be presented as literature. The supernatural must be made to appeal directly to the feelings, and to urge it against intellectual doubts is a wrong method, for it encourages two standards of truth, and prejudices the mind against much that, if presented in the natural way, will be accepted without question or doubt. The value of story-telling which is a great aid in the teaching of religion, consists in that it organises the mind into a unity, and presents its materials as dramatic wholes, and so helps to overcome doubt and circumvent argument and question.

The Bible should be supplemented at some points by selections from other religions, and perhaps ought to be preceded by more primitive religious stories. Classic and Hindu mythology and the bibles of other religions contain many themes suited to the early stages of religious development, that are not sufficiently represented in our Bible to fully satisfy the genetic principle. Christianity grew out of other forms of religion, which in part still remain, or are paralleled in the religions of to-day. Sympathetic study of all these lower forms of faith is needed, for the purpose of bringing their culture to the service of the Christian child.

Later, at adolescence, the New Testament is certainly the best possible basis of all religious teaching. It contains the story of the new civilisation, which is the outgrowth of the altruistic motive, and expresses the new and larger life into which the youth has now come. It is the story of perfect manhood, an aspect

of the New Testament narrative that is often too much subordinated in the effort to present the supernatural. The genetic order requires that the human side of the life of Christ be taught first, for it is that which is best fitted to expand the emotional life, and establish ideals. The more philosophic parts of the story, containing the doctrines of the divinity of Christ and his relations to God are best suited to the later, more intellectual periods of adolescence. The greatest fault of religious teaching during the adolescent period has been the failure to understand the nature and needs of youth. This is shown especially in the manner in which conversion has often been forced upon the child, both by church and home, with no regard for the nature of the process and change that it involves. The intellect has been encouraged to accept beliefs which are meaningless without the support of the feelings that can come only with a late stage of development. Such forcing prevents natural growth and leaves the religious life incomplete, thus defeating its own ends. It is difficult for the youth to pass through this change to the higher religion of altruism and to reach the final complete stage, as is indicated by the frequency with which we find juvenile conceptions and sentiments in adult religious belief. Religion must be conceived broadly, if the youth is not to be stunted in his growth, and every natural resource of the mind must be made use of. All tendencies toward doubt and excessive reflection during these critical years must be turned to belief. The critical attitude must not be fostered. We must have

a broader knowledge of religious cults in order to have at command sufficient resources to meet the needs of the adolescent. Especially we must make all possible use of the feelings for nature, for our present indoor religious life is unnatural to youth. The services appeal too much to the intellect, and too little to the feelings. Could we but turn into the religious life all the powers to be found in nature-love, which is so deep at adolescence, we could broaden and deepen the religious life far more than we yet understand.

For the more mature and academic youth, also, we need a better religious instruction, based upon psychology. Especially is there needed a better way of teaching the life of Christ in its higher meaning. He should be made to appeal as a culmination of the struggle of the race toward a higher life, the type of the man who is to be, and the revealer of all the best ideals of the race. The aim must be, in all of the intellectual teaching of religion, to lead the mind of the youth away from criticism to positive attitudes. We must prepare for the coming of the inevitable periods of doubt by laying a foundation of belief in all the great verities that cannot be shaken: a foundation broad enough to keep pace with intellectual growth in other spheres of thought. The Bible must be subjected to the same principles of study as any other ethnic literature. The youth must be taught to approach the study of the Bible with honesty of mind. He must learn that all the great religious themes are found in many great religions, and that truth is broad. In this way, the attitude may become constructive, and

not destructive, as is the case if the mind be allowed to become fixed in a single point of view.

Another need of academic youth is a better religious philosophy, which shall be founded upon enquiry into human nature. We should care less to examine and prove logically the truth of religious dogmas, than to understand the nature of the religious feelings. Judged in this way the truths of religion will bear all the scrutiny that can be directed upon them, and only good can come from criticism. For here the deepest justification of everything religious lies. What youth needs most will assuredly be found to be true, in the deepest sense in which truth can mean anything to us, and from this standpoint in regard to values, the philosophy of religion must be taught.

Among the problems of religious pedagogy one of the most interesting and important now at the front is the problem of Sunday. The relation of the activities of Sunday to those of the week day must be studied both from a religious and a hygienic point of view. Investigations and experiments show that one day in seven for rest and change of activities is demanded on physiological grounds. Studies of the habits of many people show that the Sunday must be recreational in a hygienic sense, and that one of the deepest reasons for the Sunday is to afford opportunity to break away from the daily tasks and to take a wider look, backward, forward, and around. The demand is for a widening of the interests of life. To

this end all innocent means of self-improvement should be allowed. All libraries, reading-rooms, museums and art galleries should be freely opened, and the purer forms of recreation should not be prohibited. The best definition of Sunday from the secular point of view is that it should be a day of higher leisure, and freedom from slavery to the clock. We are passing away from a conception of Sunday as solely a day of worship, to a Sunday of higher recreation and rest.

On this foundation of natural Sunday life, Christianity has built a superstructure of worship. How to preserve it, and especially how to teach the child and youth to gain from the Sunday all it should give to life is a deep pedagogical problem, a problem not yet solved by the meagre provision of the church and Sunday school. It is necessary that the religious idea of Sunday combine with the secular in the interest of both religion and health. For the city child, there should be excursions to the country and to parks. All school yards and play grounds should be open at least during a part of the day, and some indoor activities and some plays and games should be allowed and taught. If the children's theatre deal only with religious and moral subjects it should be opened on Sunday. There should be walks, talks, and nature lessons, and collection of natural objects should be encouraged. There must be plenty of home instruction, stories told — indeed all the intellectual and moral resources of the home must be brought to bear upon the problem of widening the religious horizon of the child.

## CHAPTER XIII

### THE TRAINING OF THE INTELLECT

THE education of the intellect, in a system of culture based upon the principles of evolution, takes a place secondary to the training of the instincts and feelings, for the reason that the intellect must be regarded as an outgrowth of the feelings, dependent upon them, and in a very true sense far less important to the individual. Education of the intellect, therefore, will be likely to derive all its principles from nature's way of maturing the young in their fundamental functions.

The first principle of intellect-training is that the child must be allowed to follow, in the main, his native interests. These interests well up within the mind, as nascent stages of instinct, recapitulating, with many variations, the stages of racial history. Each interest has its day, and is transformed, or disappears, forming the nucleus for a stage higher. The work of education is to make the best possible use of these stages as they pass; to feed the mind at the time when instinctive interest creates power of attention and assimilation. This is the true economy of learning. All culture material must be studied with reference to this principle. It must be selected according to the



stage of development of the child, and not by the logical requirements of the adult's science. The child's method of intellectual growth is circuitous, and is likely to seem lawless and capricious to those who do not take into account the nature of the child's mind, and who, therefore, expect to find in it adult traits in diminished form.

The child's mental activity is based upon play, interest, movement, and feeling; therefore his mental training must utilise in every possible way the momentum of these dynamic states. The first requirement of all culture material is that it be contentful and nutritious. It need not be precise nor exact in form, nor orderly according to adult devices, for the mind of the child can be trusted for the most part to arrange and utilise its knowledge, if it is continually nourished and kept active.

The chief art of the teacher, therefore, during most of childhood and youth is to keep the mind of his pupil filled with the proper nourishment. This demands resources on the part of the teacher, a rich knowledge of the subject-matter of his sciences, assimilated to the form best suited to the child, and above all, ready to use spontaneously. The teacher must possess a power of free, vivid, and interesting expression — ability which the great majority of teachers, as now trained, lack.

Interest is the key-note of the training of the intellect. Interest represents genetic order. The individual and the race progress according to the same laws of growth. Though our knowledge of genetic orders

is still very imperfect, enough is already seen to allow us to adjust school subjects to the child's natural ways of learning. We can see, for example, that in the earliest years the culture material of the race, which has taken the form of myth and story, is the normal nourishment; that we must begin with the finished content and the whole rather than with the minute analysis and examination of anything. We must come to each branch of study by the road the race has taken in acquiring an interest in it. If the race began with the poetic and mythopœic aspects of nature, the child's place is there too, rather than with the principles of mechanics. The chief reason that so many subjects taught industriously in the schools give such dismal results is that in the exact mechanical way in which they are taught they violate the basic laws of mental growth, ignore the deep springs of natural interest of the child, and attempt to force a precocity of knowledge against which the instincts of the young, which are wiser and truer than their consciousness, happily revolt. Insistence upon logical order before its time, making havoc with the genetic order, is the greatest pedagogic sin against the intellect. Especially at adolescence is violence habitually done to the mind. We have not yet accepted the evidence in a practical way that the order of development unmistakably offers. We no longer deform the child's body, nor refuse to attend to its needs, but we insist upon distorting the mind by prematurely forcing it to take on the habits of the adult. We try to teach the child to know a few things well, when his nature rebels against it.

We wish him to study minute parts, when his mind craves wholes. All these things we should not do, if we were to accept the teachings of genetic psychology, and examine the stages in the child's growth, and fit instruction to their needs.

Many problems confront the teacher and investigator which must be solved before we shall have entirely satisfactory application of the knowledge of nascent stages to the education of the intellect. We must know by what means and to what degree to stimulate each part or function in its stage of most and of least rapid growth; how to apply our training to the problems of the individual, whether to put most emphasis upon those functions in which the child excels or those in which he is most deficient. It must be a part of the teacher's work also to explore the mind of each child in school in order to discover precisely what the mental condition is — what content the child has brought to school, the stage of growth through which he is passing, and the condition of his interests. For upon the basis of such information alone can the school proceed to build rationally. Intellectual education must always move upon a wave of interest. The teacher should always keep in mind, too, the close relation between the motor and the intellectual elements in the child's nature; he must see that the mind is best reached through active interest; that training in motor habits forms the best means of systematising and fixing knowledge in the mind; that in fact, knowledge which does not thus become naturally co-ordinated in the child's activities

cannot be co-ordinated by any artifice and is for the most part useless and unnatural. Merely to know anything is of but slight if any value.

The child's interest in nature and his power to assimilate the mythopœic is the main entrance to the intellectual training during the earlier years of school life. Many studies already made show the great unworked field which lies here before the teacher. We little know as yet the extent to which this natural free play of the mind forms the child's method of self-education, nor how much it can be utilised in the school. The child's mind works freely whenever it is aroused by natural interest. This is true, both of his practical interests such as in animals and plants, and of the imaginative interests in more remote objects of nature. All can be utilised in the training of the mind. An excellent example is to be found in the child's interests in clouds which can serve as a type of mental action leading to poetic and artistic expression. The moods and fancies suggested by the clouds have formed an important part in the development of the literature and art of the race, and they also underlie an intellectual movement in the child. It is along the lines of such powerful and spontaneous flow of thought that the intellect is best trained.

Other interests in nature; in sun, moon, light and darkness, frost and cold, and all similar themes of nature, can be employed in the work of the school. By them nature study can be made full of inspiration; language can be cultivated, the poetic and artistic sense developed. The poetic, fanciful, and myth-making

stage is also a necessary step in the learning of science, if it is to be approached with a full momentum of interest—a truth often overlooked by those who wish the child to learn only that which is true for the senses and reason or is practical. The child must be encouraged to revive the ancient view-points of the race. These are natural to him, and are spontaneously taken, if the mind be nourished by the proper materials. Failure to bring the mind of the child into contact with this rich intellectual material is like denying food to the growing body. The result is mental starvation, and the appearance of narrow and rigid beliefs and principles before their time. The racial interests are roots of the intellect. Without them the intellect has no depth. Philosophies and sciences become arid, but folklore and myth always remain. They express a common fund of belief and faith in all minds, and thus belong to a stage of life when the mind is most genetic and racial. All this indicates that the general and imaginative must be taught before the exact fact. Sun, moon, stars, rocks and trees must be made to seem alive and personal to the child, doing those things the child himself performs. Taught so, much that is barren in science can be made productive of growth in the child's mind. All subjects, indeed, which can be made to connect with such natural sources of interest, can be vivified.

The heart and centre of formal intellectual education is cultivation of the use of the vernacular. This is the phyletic root of knowledge, and therefore must be made the basis of the child's growth. But in teach-

ing the vernacular the culture material must be above all else contentful. There need be little reference to structure and form of language. Any method, indeed, which takes the precious time of the developmental periods for barren disciplining when the mind needs to be kept full to overflowing, does an injury that cannot be repaired. It substitutes mere known facts for true knowledge, and at the same time interferes with the free growth of the innate interests. There is a time and place for formal training, but it must come when the mind is ripe for such interests, and memory is having its day. From the years of eight to twelve, when there is a lull in the development of innate interests, this kind of work has its best opportunity, but even then it must be wisely coordinated with other, more contentful work, suited to the needs of the age.

The same principle holds in all training of the intellect, whether in the lower or the higher grade. The stage of growth, in its relation to racial development, and not the alluring simplicity and order of the logical divisions of subject-matter must be the guide. The school has been too eager to teach facts in systematic order, and has thereby failed to give the mind scope — and has not even succeeded in conveying the facts effectively; for what is learned out of relation to use and need is soon forgotten and is gone root and branch.

When one seeks to apply the principle of natural interest to the details of intellect training, many opportunities are found to employ the forces contained in the most commonplace activities and interests.

Very different indeed would be a curriculum based upon these native stages from that made for the child according to an order derived from logic. No interest of the child would be scorned, however trivial, if it could be used to teach him economically, or to lead him on to higher interests. If these interests were fully developed, the work of the teacher would seem rather to be to domesticate an excess of mental action than to arouse interest in facts, to discipline the mind, or convey information. On the genetic basis, all free activities of the mind would be called valuable. Inaccuracies of statement, and even such fancies and fallacies as come from an over-full mind would be passed over without reproof, for they would be indications of mental growth and educability; and these, rather than precision of fact, would be counted normal.

The teacher must have a knowledge of the native interests of the child and understand how to use them. Though we do not as yet know fully the order of development of the interests, nor how they can be used to the greatest advantage, enough are clear as a result of investigations of the child's mind to show the principles involved.

We have seen how such interests as collecting and doll play may be used in the school and home as educative forces. We may generalise and say that all play activities and interests can be made practical in the same way. We must study them all in order to see how the momentum they contain may be carried over to the work of the school. Whenever this is done,

the co-operation of the child's hereditary forces is secured; the intelligence and power of the race, we may say, are brought to bear upon the task of the individual. No artificial interest can equal this racial impulse, and we can maintain that whatever is learned without it has but a shallow root, and when the school, as is so often the case, antagonises the racial impulses, the work is done with great waste of energy.

Illustrating still further the possibilities of motor interests in the education of the intellect, we can say that in all constructive plays there are ideal factors for mind building. Everything the child does in free play can be made the basis of knowledge. It is the organising purpose of play that gives it its right to claim superiority over methods of forced learning. In play the child expresses himself as a whole, with all his forces focussed upon a single result. The great difficulty in teaching is to give a variety of material without scattering interest, or making the child's mind merely a receptacle for facts. Play activities afford an opportunity, as nothing else can, of holding together variety in unity in a natural way, and at the same time making knowledge efferent; that is, centering it upon expression in motor form, thus leading in turn to new experience which is at once co-ordinated with the old.

These aspects of play-motived intellectual training lead to a general consideration of mental training by industrial and social co-operation. The child learns best in company, and by doing that in which he is naturally interested. If he can play a part as an individual in the organised activity of a group, ideal



conditions are secured for his mental growth. He is not then doing precisely as others do, but is taking part as an independent individual, yet interested in the activity of all the others. Thus the kind of knowledge he acquires is not only such as to bring out his hereditary forces and so to make his development normal, but it is the very knowledge that best forms the basis of higher culture, that stimulates the intellectual and moral life. And in addition to all that, it is in the highest degree practical. We have as yet made but little progress towards a truly socialised education; yet because social organisation is the most fundamental mode of human behaviour, and because all our knowledge that is worth acquiring is social in its intention and expression, it can readily be seen that the social idea is one of the most far reaching in education. Social learning is the economic way, for it is the child's natural and most intensely craved attitude in everything he does. So the social nature of the child must be used in every possible way; he must be put into a social position in order to be taught naturally and effectively. This has been done in the past to but a little extent. The tendency, indeed, has been in the opposite direction. The school has minimised the social elements, and has allowed the child to be natural only out-of-doors on the playground, where he has been allowed to make what use he can of social impulses without guidance. The ideal of the social education is co-operative learning. It is applicable to all departments, and all subjects. By it, too, the alienation of school from the interests of the

home can be corrected. The school, socially organised, is made in the image of the home; it is the home projected, enlarged, and idealised. The teaching spirit becomes identical with the parental.

The same spirit of learning by doing should guide the child in the home; and his home tasks should become a part of his mental training. In the home he should learn by service to the group. The teaching of the school should encourage appreciation of and interest in the home. Especially during vacations the children ought to be taken heartily into the interests and duties of the home. The effort to exempt children from the menial duties of the house, so often striven for by people of the lower and middle classes, is wrong. The home is the mother of the school, yet the tendency now is for the child to learn at school disrespect for the home and dislike of its duties. The school's great opportunity is to select the most educative elements in the home interest, and formulate them in such a way as to instruct and educate the mind, and to develop motor ability. Industrial education, considered as training of the intellect, should have a far wider scope in the school than now, for activity is the centre of all learning. Industry may be made to teach all school subjects. It is inseparable from geography, and a direct incentive to it, for all such work takes its origin in an interest in human activities. In the higher grades the same fundamental interests open up the whole industrial and financial organisation of society to intellectual interests.

The social method can be used advantageously in

such work as nature study. Care of plants and flowers, bee-keeping, elementary nurseries, study and care of birds, insects and their economic aspects: all these can be made social problems of the school and the great force of the child's co-operative and competitive interests be brought to bear upon them.

In connection with all language work the teacher needs to be reminded that language is a social function, as, indeed, is all thought. Language is learned naturally in the practical situation of every-day life. The same method must be carried on in the more formal instruction in language. Learning must progress under the spur of the social motive.

Out of social interest, too, can be drawn, by natural steps, an interest in all the civic problems of the community. Attention begins with organisation of the activities of the school, and widens to those of the community. The mind of the child is easily led with intelligent enthusiasm, from his own social problems, to the special departmental work of government; to the study of civic, hygienic and charitable institutions, and their methods; and of departments of construction and protection in city and national government.

The teacher should always be fully conscious of the real nature and purpose of the training of the intellect, and the reasons for imparting knowledge as such to the child. The primary purpose is to stimulate the growth of the child, and bring him to a normal maturity. Our race depends for its further progress, not upon the amount of knowledge in any form we can convey to the rising generation, but upon the success

of our training in bringing it to a full physical and mental maturity. The method of imparting knowledge still so prevalent — the method of recitation, answer, and examination — is not an ideal way of accomplishing this end. It is especially weak in training the mind in its true function as director of practical interests, and guide of feelings and instincts. It does not reach the moral life as it should. Criminologists justly complain that all this learning does not prevent the increase of crime. It is only by understanding the true connection between intellect and instinct and the principle of the nascent periods that a clue to the right education of the intellect can be found. If we fail to understand this, we fail to educate in the best sense. The child's mind is neither a blank nor an adult's in miniature, but is a growing organism, having its own inexorable laws of development, which must be followed, not contended against, in the education of the individual.

REFERENCES.— 16, 22, 33, 44, 46, 61, 112, 116, 161, 168, 184, 186, 196, 279.

## CHAPTER XIV

### EDUCATIONAL PERIODS

FROM the laws of development already mentioned, and the maxims based upon them, a sketch of the educational eras of the life of the individual can be drawn, showing for each age—infancy, childhood, youth, and adolescence—the main principles about which the method and matter of teaching must revolve. The underlying fact beneath all is that although growth is a continuous process, with a single end and aim, each stage differs from the others and must be treated according to its own nature, and in a sense for itself. This is but to repeat the method of the race. No other course is normal nor possible. The adult cannot bring the child to maturity in any other way. He cannot impose upon nature a plan of his own and dictate the course the child must take; but he must himself follow, and educate according to the plan which nature has outlined and fixed.

Infancy is a time for growth, and for sensory experience. The child develops almost entirely by his own initiative. His chief educational requirements are for those things which make for health, and training in the most fundamental habits. There must be opportunity for use of all the senses, especially sight and

touch, but there should be no forced experience, nor incitement to rapid development of functions. The most important work that can be done for later moral and practical life is training in the few habits essential to the stage of infancy, such as regularity of hours of sleep and feeding, being alone, learning not to cry. One must be content with the infant's natural modes of reaction, and must not try to see in his actions more than they contain. Those who, like the Froebelians, attribute to the infant the power to absorb or divine higher truths about God, order, and infinity, do violence to the nature of the infant, and ignore the plain teachings of science.

Gradually the purely sensory stage is passed, and the imagination becomes the centre of training. The moral need has not yet arisen, and except for discipline in correct habits of obedience and elementary morals, little emphasis should be put on conduct and what is done should be based upon simple, direct commands, and not upon teaching. Now for five years or more the chief educational need of the child is that his mind be provided with rich culture material stimulating to the imagination, and that he should be left free to work this out and express it in free play. The child must now live through the stage of myth-making and poetic fancy of the savage; the receptive faculties must be steeped in nature lore, story, and those inventions of natural religion which the race has now outgrown, but which are suited to the child's needs. It is only in such a way that the mind, acted upon by the environment, adds a stratum above the merely sensory plane,

and begins to work in a larger field, both in time and space, than the senses can grasp. It is all-essential now that the child's world be made rich and full; and, consequently it must be crude, unfinished, disjointed, and illogical. Fancy must roam free, thought must grapple with all the problems of the practical and ideal worlds, but there must be no forcing, nor strain after precise knowledge.

Motion, like thought, must be coarse and free. It must be fundamental, using the large racial muscles rather than the finer accessory parts. Its one normal type is free play. The child's play during all these years of constructive imagination should be as little confined as his thoughts. He may be left to create his own world, to people it with his imagination. Social life is of much less moment to him than a few years later, and he is often content to play alone. He must not have too many toys and material aids to thought, for they do harm by cramping and focussing the attention upon that which is near at hand. He must be left to find amusement for himself. The child who has been so reared that he needs constantly to be amused, and who has few spontaneous and keen desires, has been wrongly educated. Religious education should be natural like all the rest, and suited to the child's stage of growth. Instruction should be largely by stories; stories from the racially childish religions, from the Old Testament, a little of the new Testament centring about the child Jesus. But nothing formal, nor forced.

So the principle of the child's education up to the

time of eight is clear and simple. It consists in the rule to feed the mind with material suited to the age of the child; that is, determined largely by his own spontaneous interests — then to allow the mind itself to act upon this material, to work it over and adapt it in the play life, expressing it freely in the child's own way, or in ways psychologically equivalent to his own. In an ideal education, all formal work such as reading and writing — everything that cramps the imagination, or takes time from the more important work — would be delayed until after this first period of rapid absorption is passed. All instruction would be personal and alive, and much dependence would be placed upon the child's power to comprehend truths, even the general and the remote from his experiences. Minute analysis would have no place; it would not be necessary always to assist the child's mind by pictures, models, and objects, for these can easily hamper the imagination. Little should be demanded of the child in the way of giving back information learned, for the mind can be trusted to retain with great tenacity whatever it can utilise, if the health be normal.

From eight to twelve, the order is very different. Society demands that the child possess certain rudiments of learning, to acquire which demands drill, repetition, and close attention. Times when the innate forces are rapidly developing are not suited to such work, but nature has provided, from the years of eight to twelve, an ideal condition of mind and body and state of interests for acquiring once for all the formal learning required. The inner growth is now for a



time slowed; there will never again be such susceptibility to drill and discipline, such plasticity to habit, or capacity for adjustment to external conditions. This is the age of all formal and mechanical training. Technique has its day. Reading, writing, drawing, manual training, music, foreign tongues, the manipulation of the number series, all kinds of skill, these have now their golden hour; but if the time be allowed to pass and they are not acquired in their natural season they will be attained later only with difficulty, at a loss of energy, and the certainty of imperfect result. Teaching now consists, especially, in imparting the required knowledge and securing necessary skill, working as intensively, definitely, and with as little loss of time and energy as possible. To a certain extent, such training may now go against many native interests of the child, but drill and habituation are themselves normally demanded for growth, and are necessary to make this stage of life complete. Moreover, the child himself has a natural inclination now towards routine, definite learning, and precision of conduct. Interest in doing all things minutely and well takes the place in part of the more intense and special interests of earlier and later periods.

The method of teaching should now be mechanical, repetitive, dogmatic, and authoritative. The powers of retention are at their greatest height, and they have greater capacity, by far, than we yet employ. We have much to learn in this particular from the schoolmasters of the past. The greatest possible stress, short periods, few hours, incessant insistence, incitement, little re-

liance upon interest, reason, or work done without the presence of the teacher — these are the correct methods in imparting the essentially formal elements of knowledge.

Though drill, as has been seen, must have first place in the pre-pubertal years, all natural tendencies and nascent impulses must be given scope. Insistence upon precision must be far more constant than in the preceding years, but there must not be over-precision where there is not yet enough inner control. Especially in all matters of morals this must be borne in mind. While requirements and training in essentials should be strict, it must be remembered that this is not an age of fine sentiments and manners. The child is not yet altruistic. He is passing through a stage in which crude instincts must be given some scope. Conduct can be controlled from without, and organised to good ends, but it cannot yet be expected to have the self-initiative that comes from moral ideals, as will be the case a little later.

At the end of this last period of childhood, the school and home should have succeeded in giving the child something like the following equipment: He should be able to read and write well, know a few dozen books, and as many games. He should be well started in at least one foreign language, and in the ancient languages, if these are to be learned at all. He should know something about several industries, and be well skilled in making things in which he is interested. He must know much about nature in his own environment, be able to sing and draw, have a good acquaintance

with literature suited to his age, and with the epochs and important persons of history. He should have memorised much more than is now customary in school. He should be a member of a few societies and school teams. To accomplish all this it is evident that the teacher of this age needs to be a person of many abilities and virtues. Above all there is required a leader, one who will not merely direct and tell how, but *do*. The teacher must be able to do many things, both mental and physical, that the child cannot. To hold the respect of the child he must be able to answer most of the questions suggested by the environment. He must understand games, and play them well, and must be able to mingle with his pupils without loss of self-respect. He must love out-of-doors, and he should be able to sing, play, and draw at least moderately well. Something he must do expertly in such a way as to command admiration. He must have good manners, a good disposition, sympathy, strong vitality, and love of life.

At adolescence again the aspect of all education must radically change. Once more the need is for free play of interests, developing from within. Now, as in early childhood, comes a time when feeding the mind must take the first place, and all drill and discipline must be subordinated. Appeal must be made to enthusiasm and inspiration. The powers of appreciation and intuitive understanding must be depended upon, and too much must not be asked from the child in return. Examinations have but little place. The method of teaching must be to present large conceptions, rather than

details. The world must be taught as a whole, rather than in its minute parts. Quantity and enrichment are more to be desired than accuracy. The purpose must be to bring out the child's own interests and enthusiasms, and so to nourish and lead them as to raise them to the highest possible level. Culture must be all-sided, and at every point the emotional life and the intellectual life must be kept in close contact with one another.

Two periods, pedagogically significant, may be distinguished in the course of adolescent development. The age of about eighteen or nineteen marks the dividing line. About this time the youth shows signs of a pause in physical development, representing, it is likely, the time when, in the race, the intellect began to have predominant survival value.

The ideal of education during this first period is surely to fit for nothing in particular, but to extend the mind in all possible directions, and to the highest point of capacity on every side. The period of plasticity and variability must be prolonged in order to allow the many elements of the mind to struggle for supremacy. Everything that might cause arrest of development must be eliminated. The aim must be to allow this period of life, which is in so many ways different from all others, to have its full swing, as though it were to be the last stage. We must see, however, that in spite of the broad sweep of desire, at this time, the youth's point of view is essentially utilitarian. He does not yet wish knowledge for its own sake, but to satisfy his most immediate desires, emotions, and impulses. He

wishes to be brought to the largest view, and to the frontier of every subject that appeals to him. The best ideal that can be held before him, as we have already seen, is that of colonial life, which combines physical, moral, and intellectual independence. So something more than instruction is to be made the inspiration of the pedagogy of this age. The work is to inspire the whole personality and to keep the child constantly in contact with the large ideas, and the fruitful and high ideals, of the life about him. To bring everything into touch with life, and to broaden interest and knowledge, must always be the aim. All the large truths of science must be presented, rather than exact and minute knowledge. The child must approach as the race has, by way of personal interest and need, rather than through a forced interest in the abstract aspects of science. All studies that are merely formal, which require drill and drudgery, such as languages, must have a very subordinate place in the curriculum, for in dull drill valuable time is consumed, without adequate compensation in results gained. Complete and systematic knowledge has no place. Motor training must be of the same general type as the knowledge subjects. It must touch life, and be broadly industrial, rather than definitely vocational. It is especially important to arouse enthusiasm at this point, because of the power of motor interests to control impulses, and to co-ordinate and centralise interests. In play, the great lesson to be enforced is self-effacement for the benefit of the group, and the control of conduct by the motives of honour. The new

interest in contest and in self-improvement must be made use of in directing athletic interests, and into this the higher motives of religion and morality must be infused. Social organisation must not be neglected, and all such natural societies as debating clubs, literary societies, and the like must be encouraged, for they bring out qualities that can be reached in no other way.

The second period of adolescence is the time for developing the large intellectual enthusiasms. The danger is now great that the capacities of youth for the highest stage of growth may fail to be opened, and that enthusiasm will lag, and the organism settle down upon a low level. The chief effort now is to keep interest plastic and open — to be sure that growth continues. Now is the time, especially, to do everything possible to cultivate visions of ideal life, to allow mental excitement and enthusiasm to lead the intellect on to positive points of view, rather than to encourage it to dwell upon that which is merely critical. All problems must be kept open so that the mind will press on, and not close in upon truth prematurely. For these reasons education during these years must still be general rather than special. The effort must be still to prolong the period of maturity, to round out the mind in every part and function. Education is still for development, and not for results for immediate application, if the most complete intellectual growth is to be attained.

This is the time when philosophy and religion perform a function that is often mistaken. The youth

now needs a philosophy which shall open the whole world to him, that shall bring him into contact with all the great principles of life and science, that shall treat the universe as real and objective. The philosophy of the college is too likely to approach from the subjective side, to lead to critical rather than broad and constructive thinking, and thus to give a sense of finished understanding—which is the very opposite of what is desired. All the knowledge of the adolescent must lead outward, toward the active life, and must be a foundation for all later mental growth, not a finished way of judging all truth. Likewise in religion the youth needs a broad outlook, in order to prevent the narrow critical spirit which is otherwise sure to arise, if historical statements begin to be doubted at all. The student must be brought to see that the study of religion is the deepest of all sciences, that in religion the whole meaning of life is expressed, in a form deeper than historical fact, dogma, or creed. Above all, the life of Christ must be made to appear the type of the highest adolescence, the expression of what the adolescent of the future may become.

The social life still performs a part in education. The youth must act in a social group, if his enthusiasms are to be fully aroused and controlled. He must be a member of societies, for these furnish, in an intensive form, the conditions for development offered in a more general way by organised society at large. Especially ideals of chivalry and honour are fostered by membership in the group, loyalty is intensified, personality is broadened and becomes more inclusive. He

learns human nature, and is thus prepared for further social development. These social means of growth, instinctively pursued by the normal youth, by which he seeks to broaden and deepen his personality, must be considered and used in his education. Any intellectual training that does not have at its root social ideals, and that does not take advantage of social means of culture, will be likely to leave the youth self-centred, critical, and antagonistic in all his attitudes.

REFERENCES.—105, 117, 196, 276.



PART III  
THE SCHOOL SYSTEM



## CHAPTER XV

### THE SCHOOL SYSTEM

IN recent years new experiences and new insights from scientific studies have brought not only new hopes but new discontent to our educational thought. We see that the school is the most important institution of a nation, and that by it the future of a nation is to be judged. Both the possibilities and the pressing needs of education have become clearer. We see that the school must be reorganised upon the basis of a new philosophy.

In considering the reorganisation of a school system the first fact to be recognised is that organisation, the need of dealing with large numbers in a uniform way, always leads to degeneration along some lines. All systems of schools tend to decline, and teachers to deteriorate in interest and ability, 'ust in proportion as there is no infusion of new thought from without the system. To the extent that teachers are free from public criticism, and are secure in their positions, if there is no elective choice on the part of pupils, or other inducements to keep the school progressive, routine is certain to become fixed and the school to degenerate. Therefore the first requirement of a good school system is that it be open to influences from

without, especially from the university, where thought is not hampered by tradition and system.

The fault of system permeates every grade. The necessity of making one grade fit into another in a formal way limits the power of the school. The child is taught with reference to entrance into the next grade, rather than according to his needs. Grades are connected artificially, and are not well articulated, so that the result is a disconnectedness of learning. A great number of facts are taught, soon to be forgotten, for there is no continuity of interest. Methods of promotion are clumsy. In a word the needs of the school cause a progressive interference with the natural order of the child's development. The trouble begins usually at the top of the system in the college, where education is likely to be conceived according to the ideals of exact science, and to be logically devised rather than psychologically, as it ought to be; and in consequence the whole system is forced and constrained into unnatural efforts, the upper grade always dictating to the lower the results it shall produce.

Some of these difficulties would be overcome if there were a different method of distribution of teachers in the grades. In the lower grades the teacher should follow the child, in order that there may be greater continuity of effort and individual attention, and thus the great waste of teaching the formal studies by different methods in successive years be eliminated. In the later years there should be more teaching by special teachers in order to preserve the continuity of the subject, and to bring to bear special pedagogic skill.

The departments should fit into one another, and work together in the sense that each grade should do the best possible for the child, with eye single to his needs at the time it controls him. The grade above must take the product, and utilise what has been done, but it must not dictate to the grade below according to its own standards. The greatest of all these difficulties is the complete misunderstanding between the common school and the university and the failure of the ideals of the one to harmonise with the ideals of the other. The common school feels the need of preparing the child for life, and the university tries to turn all currents toward the higher learning.

Another difficulty, arising from an over-developed ideal of democracy, is the too great uniformity of treatment of pupils. It is believed that because all are born free and equal all must be treated alike. In the first place not all should go to school. Some children are unfitted by nature for education, and yet they are to be found in our schools trying to keep pace with the rest. There should be greater differentiation, and there should be special schools for those who need special treatment. Many, too, who are sent to the high school should not go beyond the grades, and many who may well profit from secondary education should not be sent to college. There should be greater differentiation of courses all along the line; schools must not try to cover the whole field.

The whole subject of control of the school by the government needs revision. The method of control by large school boards is very ineffective and opens the

way for many evils that work great harm to the interests of the school. School boards do not surpass the average intelligence of the community, and they therefore tend to bring down to the average what should be the most ideal of all institutions. The schools are thus made subject to petty political interests. School boards should consist of but few members, and the finances of the school should be separated from the city government. Superintendents should have greater power to elect teachers, to choose courses and text-books, and should have a longer tenure of office. The school ought to be more closely affiliated with the home, and there should be better contact between several kinds of organisation and the school; such as the women's clubs, public school associations, civic and trade clubs, public library, departments of hygiene, medical societies, and religious organisations. All these can and must supplement the school, and must help to create a wider interest in education. Teachers ought to be informed about the greater pedagogy which these and other movements represent, and to be in touch with all the outside agencies that are trying to care for the child. All these educational organisations, including the school, ought to be co-ordinated into one comprehensive department, with city, state, and national branches. We have not yet taken education seriously enough, for we have not only failed to see the larger relations of it, but we have allowed the school to remain but a minor part of public administration.

The school should control more hours of the day,

and more days of the year than now, and by making all its methods and its environments more hygienic it could do this without danger to health. The long idle vacation is bad, and especially in the city it leads to many evils. It is true that the school, as it is now conducted, takes the child from home and play too early, but the remedy for this is not to begin school later, but to change its methods. At present the first two years are likely to be almost wasted, for the school takes the child at an age when there is often weakness and ill-adjustment, shuts him up away from nature and free social life, prescribes a sedentary habit, forces him to use only his small muscles; failing to see that all interests are now motor and demand free expression. If, instead of emphasis upon learning the rudiments, the early years of school were made more natural, hours could even be lengthened without detriment to health. The prevailing systems require both teacher and child to leave their best abilities behind, when they enter the schoolroom. Instead of this, all natural instincts should be given free and wide opportunity. The kindergarten ideals, rather than those of the higher grades, should dominate until the age of eight, and the time be devoted to filling the mind and cultivating experience and expression. More work should be done out-of-doors. There should be more contact with industrial life, freer access to the country, more plays and games, and excursions. Everything must be made more vital and interesting and less mechanical. The school must bring into play all the powers of the child, and not exercise the memory alone. It

must imitate the home in giving thought to the individual. It must look after the cultivation of habits, deportment, cleanliness, obedience. There must be more of the spirit of religion and more teaching of morality. Examinations have little place, and promotion from one grade to another should come at any time, and in any subject in which the child shows sufficient progress. In a word, the school must change radically in the direction of naturalness. Yet it must not go too far in paternalism, and aim to relieve the home of its proper responsibilities. It must co-operate with the home in the right division of labour. There is a question whether the present tendency to relieve the home from the purchase of text-books and in other ways to make smooth the path to the higher education may not make both the child and the public hold the school too cheaply, and so fail to profit by it and participate in its betterment as they ought.

The most friendly critic must be convinced, even upon slight acquaintance with the school, that the standard of teaching, in America at least, is low. Less than half of our teachers have had professional training. Teaching is very often taken up, not as a life work, but as a stepping stone to some other occupation. So little is it regarded as a permanent profession, in fact, that the average teaching life is not more than three years. Too little of the personality is put into the work. The teacher is far too likely to stop learning when he begins to teach. The work becomes a routine. Teachers are in demand, so that positions are relatively secure, and the teacher is protected from



criticism. Until these conditions are remedied, it will help but little to raise the salaries of teachers, for this will not reach the vital point. Professional spirit must be created, and so long as schools are taught predominantly by women, who do not intend to adopt teaching for a life work, and who therefore are unwilling to make serious professional preparation, this will be difficult. Add to this the prevalent political influences in the school system, and the dictation of text-books by commercial interests — and some of the chief obstacles to educational enlightenment will be understood.

These conditions have resulted in low standards of discipline, a one-sided morality, and a lack of stimulation of the more manly interests and virtues. Lack of interest on the part of the teacher has favoured routine and monotonous work. The teacher depends upon the text, and loses contact with the subject that is taught. At the worst, teaching degenerates into a mere setting and hearing of lessons. The teacher tells the child what to do, and tests him to see whether he has done it; so that the chief activity in the school-room is the giving back of information by the child. The school content is lacking in richness, and is fragmentary and unrelated in the child's mind. Moreover, these faults are not confined to the grades but exist also in the high school and in the college.

Improvement in this situation must come primarily, as has already been indicated, from improvement of the teacher — by awakening interest and professional spirit. There must be incessant stimulation of the

teacher's mind from the progressive thought outside the school system. Teachers must keep in touch with one another in their social and professional life. They have too few incitements to self-education, far less than the other professions in which competition for the emoluments and prizes is keener. Pedagogical societies, clubs and institutes are needed in every large community. There should be central pedagogical libraries, with museums containing all sorts of suggestions and devices for teachers. There should be collections of lantern slides and pictures which may be passed from one school to another, as well as all the best text-books and supplementary books in every department. Government reports, proceedings of congresses, and all the latest information in education should be readily accessible to all teachers. The teacher usually lacks sufficient knowledge of the nature of the child, and also is deficient as a student of the subject he teaches.

In many respects the American teacher may well learn from his German fellow-worker. The standard of teaching is higher in Germany; there is more professional spirit among teachers, and as a class they are more respected. The difference is greatest in the extent to which the German teacher studies with and teaches the children who are under his care. He uses far less time in hearing lessons, and almost none in demanding silent study in school on the part of the pupil. The teacher's ideal is to have a mind charged full to overflowing with his subject, and to be a source, not merely of facts, but of interest and inspiration. Often teacher and class work together

and in many cases there is no text-book for the pupil. Far more books are used by the teacher, and fewer by the pupil than here. The teacher first excites interest and curiosity and then aims to give the pupil soul-satisfying information and interest in further enquiry. There is much apparatus in the German schools; specimens, diagrams, pictures, and maps abound. The teacher is mentally active and alert during all his teaching hours, often walking about the room, closely in touch with his whole class. The minds of all are tense. In all these ways the German teacher may serve as a model.

In recent years, it is true, we have gradually been awaking to new interests, and are already approaching better times. There has been more recognition of nature's mode of teaching. More attention has been given to the hygienic problems of the school. More scope has been given to natural interest. There is a tendency to provide more motor elements in many subjects. Gymnastic work, games of all kinds, field excursions, military drill, and manual training are moving forward. If this spirit is encouraged the future will see many changes. Nature study will increase and will at every point connect with out-of-door life, and will be made the foundation of all other scientific work. Language study will be richer in content, and language will be learned by expressing thoughts and experiences that are of interest to the child. There will be more oral methods of teaching, and the language work will come earlier. There will be more attention to the needs of each stage of

development, and less of sharp division between grades. There will be more attention to individuals, more elective work, better means of discovering the natural lines of interest and ability in the individual. The teacher will have a greater knowledge of the nature of the child. More attention will be given to the emotions, and relatively less to the intellect. In fact the test of the school of the future will be its efficiency in bringing these deeper functions to complete maturity, and not its success in imparting facts.

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## CHAPTER XVI

### THE VERNACULAR

THE teaching of English, and language work generally, is proverbially difficult and unsatisfactory. There is truth in the claim that we are falling off in efficiency in teaching the vernacular, rather than improving; that even when the youth arrives at college his knowledge of his native tongue is still less than it should be, and is often absurdly deficient. The main cause of this defect is the unpedagogical manner in which language is taught, especially the sacrifice of content for form, thoroughness and precision, and the neglect of the child's natural interests in reading. Language analysis came late in the race, and should be late in the child. Language is not properly coordinated with other studies, but is made too much a thing apart, taught for its own sake. Too much dependence is placed upon the eye in learning language, and too little upon the ear, for such qualities as rhythm and other very important elements of the use of language are conveyed through the ear as they are not in any other way. Properly conceived and taught, the study of the vernacular outranks all other studies in importance; but it must be freed from the prevalent evils. There is in all stages too much

precision, too much analysis and syntax, too much tendency toward what may be called a feminisation of literature; selections for reading work are made which are below the intelligence of the child, and too much time is spent upon details. At some times in the child's development there is need of reading beyond experience; of skimming and rapidly surveying many language forms; times when the receptive powers are very great, and the mind needs to be nourished, as it is not now usually by the school reading.

Both reading and writing are usually taught too early. For countless centuries, in the race, language was all oral, and it should be so for the child during a longer period than is customary. Reading and writing, as processes, are artificial and uneducational in themselves. Therefore the less we appeal to consciousness and effort in acquiring them the better. By delaying them until precisely the time when the mind is best adapted to such drill, and working intensively, trusting much to the child's native powers of assimilation, they are learned much more readily and more perfectly, than when they are attempted earlier. Oral language methods are correct, for they put more work upon the memory, afford a more natural state of attention, and make use of rhythms and cadences which greatly assist the child in learning language. Methods of reading and writing cramp the attention to a narrow focus, take away the interest from the content, and put it upon the details of form.

Writing especially is begun too early. It came late

in the race, and should be deferred in the education of the child until there is opportunity and preparation for it. Writing should be preceded by much manual development. At first all movements must be large and free, but this stage of using the fundamental muscles must not be too far prolonged. In the early stages a model should be followed closely, and great care taken not to fix wrong habits which can seldom be entirely effaced. Gradually there should be allowance for individuality, and therefore the vertical script cannot be recommended as a final stage, to which all must be brought.

As to the methods of teaching reading, it is likely that too much stress has been put upon this. The best opinion now indicates that it should be delayed until about the third school year, and that then it can be taught with but little difficulty; that preceding it, language study, nature study, and other content subjects should be well advanced and so prepare a natural interest. The effort, so prevalent lately, to devise a perfectly scientific method of teaching reading seems to be unnecessarily making difficulties where there should be none. Individuals differ so that methods that are best for one are relative failures for others; and besides, learning to read is a complicated process, demanding several different functions, and there is need of appeal by several avenues and methods. Moreover, teachers differ in their ability to teach one or another method, and each is likely to obtain the best results from the one most natural to him, or which he knows best. Many children will

learn to read easily by almost any method, and the stated use of one does not at all prevent the use, on occasions, of any or all others. The main purpose is to read, and refinement of method is of little consequence. The natural place for the child to learn to read is in the home. When it comes as a natural effort to gratify interest or curiosity, there will be little need of method of any kind. The child may thus learn with almost no instruction.

As to the school methods of teaching reading, the accumulated experience of teachers seems to indicate that at first objects should be presented to excite interest and furnish content to the mind. In general, there are more difficulties in methods that begin letterwise than in those which begin with the word as a whole. The phonic method as best taught, especially in the analytic stage of dissecting out sounds from a wisely devised set of words, is a valuable addition to pedagogic devices. There should be but little use of primers, and all drill in spelling and in phonetics should be entirely separate from the actual reading.

In the first reading there should be included some of the old nonsense jingles and rhymes, which are stimulating to the language sense, and are fascinating just because they have no definite meaning. The imitation of cries of animals, interjections, and such language forms as the original Mother Goose all have a great value in the early stages of learning language, for they enlarge the child's conception of speech and expression. The child is exceedingly susceptible to all such rhythms and plays of sound, and rightly used



they are educative far more than is usually recognised.

After the child has mastered the first task of actually learning to read, the real problem of reading begins. Now the question is, What shall be read? There is enough of the very best to occupy one for a lifetime; so we can assert, at the outset, that there need be no reading that is without value. Everything the child reads should be read because it adds something of value to his experience. The first principle is that quantity of the best reading should take precedence over form. Much reading suited to the stage of development of the child is the order, rather than close study of a limited amount, or attention focussed upon language itself. The meaning, rather than the words, must be the centre of interest. The best reading matter the language contains, adapted to the needs of the child, must be made accessible. We must not forget that the purpose of teaching reading, as of all other subjects, is in the first place, moral; that it should also be in touch with the great practical and industrial purposes of education — that is, must be an instrument of evolution and development, rather than a mere means of understanding the work that has been done in the past, or is being done at the present time.

One of the most important of all the educational services of the near future is to re-write and re-edit, for the benefit of the child, all the world's great literatures, upon all themes suited to the child's stage of development. There are several types of literature

and thought that must be brought to the child much more effectively than now.

First, is the literature about animals. Love for animal life is one of the closest affinities of the child, and its best literature can do a work for the mind which we as yet but little appreciate. Both domesticated and wild animals must thus be brought to the child. We need books about all of the domesticated animals which play so large a part in the life of the child, describing their habits of life, their relations to man, their place in story and poetry.

Another great need of childhood is for condensed and simplified stories of the great mythic cycles, epics, and classics, that arose and took form in the youth and childhood of all the dominant races. The soul of the child is nearer to these themes than to that which is nearest in time and place, for wherever the world is young there the child is at home. All the great stories of the world should be worked out one at a time, told and re-told to children, and then re-written and modified according to the child's interest, until each one is the most pedagogic form possible of the story and the truth which it tells. Children should early become acquainted with the story-roots and leading themes of all the greatest and best literature in the world. Homer, Thucydides, Herodotus, the *Nibelungenlied*, the *Arthuriad*, Dante, Shakespeare, and many others should be adapted each to the age most suitable for greatest profit. All these stories, and all the old traditions, are charged with moral power, are stimulating to the mind, and æsthetically in-

spiring. In them is presented every type of human character, and every great ethical situation; they may be made to fortify youth against temptation, and to aid in the formation of character. This literature should form the staple of school reading, and also of the supplementary reading of the child. There should be only one standard of merit; that is, moral value. The aim must be to develop an active appreciation of good literature, and the habit of reading it rather than bad, for with this end all others are secured. There must not be too great a desire to make everything exactly intelligible to the child. There are truths that cannot be transferred immediately from mind to mind, but which can be implanted by suggestion, which can be felt if treated emotionally or æsthetically, and which may be grown up to later. All the best moral lessons come thus by indirection and suggestion. Not only should the best ethnic material be thus worked over for the child, but the national sources should also be put into story form. By this means a good strong use of English idiom can be made a habit, and it is one of the best means of inculcating patriotism. Reverence, self-respect, honesty, industry, contentment may be taught through our own national literature and history.

A third type of children's literature that is much needed is the story of savage and primitive life. We need many simple stories of how the races live, their relations to nature and to climate; how they hunt, play, weave, manufacture, cook, eat, sleep, fight; about their myths, religions, and ceremonies; their

family and tribal organisations; how they meet all the problems of life; what they think about sun, moon, stars, trees, animals, plants, fire, lightning, the clouds, the origin and end of man and all things. All these themes fit the mind of the child, at a certain stage, as no others do, and they stimulate thought and sentiment, and lead on to higher stages of intellectual and moral life.

We need, too, a Scripture anthology, and outlines of sacred history suited to the child. In this, as in all other history, persons, the dramatic element, the strong and exciting should have a prominent place. All history should be searched for tales of great deeds, and accounts of great virtues, and be presented to the young child in the best form.

In all this there must be, and will be, a wide range of words, and especially of styles. The only way to give children good vocabularies of words that they can truly understand is by such appeals to their most true sentiments and to the imagination. While it is not true that there is no profit where there is no pleasure, yet pleasure always increases the profit. The child's reading must be done enthusiastically along lines of his natural interests. Not accuracy and hard dry drill must come first, but general knowledge of content. Many literary gems should not be discussed at all, but should be firmly memorised. There is much that fits so well in sense and form that it must be absorbed precisely as it stands. Far more of this should be done than at present is attempted.

All such reading takes the child out of the narrow

limits of individuality, and leads him to an appreciation of the life of the race. In all these early acquaintances with the literature of the race, the oral should be substituted as much as possible for the read story. The language training is thus made more effective, and the moral influence of the story is greater. When a story is told it becomes a part of the personality of the teller and the word is reinforced in many ways which are lost when the book comes between the hearer and the teller, and much more when the child himself reads.

If it is important that the child should have close acquaintance with a few of the great classics of the race, it is almost as necessary that he should have a wider acquaintance with much more. Although a single work read and re-read until it becomes a part of the child, until its flavour is really caught and its content absorbed, raises the level of the whole moral and mental character, the wider function of many books must not be overlooked. If the point of view taken here be correct, and reading for children be so important as it seems, one of the greatest culture movements in recent times is the invasion of the library upon the school. There are coming to be more and more attractions for the child in the public library, and in the higher grades more and more of the instruction is in the form of direction to the best reading. That there are some dangers in this method must be recognised. Reading is in itself an unhygienic activity of muscles; it takes the child away from out-of-doors, and its interests; and to stimulate an interest in reading makes

possible the cultivation of tastes for what is bad or worthless, as well as for the best. To a great extent teachers themselves are still in the dark about the best literature for children, and the needs of each age. Finally, in many departments of interest to children, good books do not yet exist. Yet the child must be allowed a free range among books. Merely to open and glance at books is a help. The child must acquire the habit of going to the best books on any subject. He must know that there are many grades of value, and must learn how to recognise the good. Until the child has acquired the habit of reading and ability to take pleasure in silent, cursory reading of good literature the school has not entirely performed its function. This is the index of capacity for culture. If such interests are cultivated, and the reading work is made natural, following, though not slavishly, the child's interests rather than imposing artificial interests upon him, before the high school stage is entered upon the child should have an acquaintance with much of the best literature of the world. He should have learned all the great story themes, and if literature is brought to him, edited not by the literary man, but by the best teachers who know how to adapt it to the child, much more can be done than is now accomplished. Especially at adolescence, reading should have as its first aim to satisfy feeling. The function of literature is to pre-form moral choice, to help bring out all the possibilities of the soul, to raise interests to higher levels, to satisfy the craving for experience, and the longing for the ideal.

After interest in content is provided for, must come attention to form. The teacher of reading must not neglect grammatical drill, for this is one of the important educational instrumentalities, and the basis of all exact study of language. What is most needed is syntax, and enough parsing and analysis to develop a sentence sense.

Closely connected with this is the theme work. Bookish topics must be avoided, and the virtues chiefly to be sought in composition-writing are freshness, boldness, and originality, rather than fine finish. Themes for composition work, both for older and for younger pupils, must touch upon points of vital interest, must connect with the spontaneous expression of feeling and thought, and with the imagination.

In the higher grades of the school, in high school and college, the same general points of view are to be applied as in the lower grades. Language training as a formal discipline must be made subordinate to the positive aspects of the subject, the acquisition of vocabulary, and the making of language a vehicle of thought. The moral value of literature, and its connection with all other subjects must be regarded. There are several causes of the present unsatisfactory condition of language subjects in the higher grades and in the high schools. First, is the excessive amount of time that is given to foreign languages. These interfere with the vernacular, in the formative periods, and induce a formal foreign cast of language. The second prolific cause of decay in language work is the

subordination of content to the study of form. Grammar is placed before content and vocabulary, and time is devoted in excess to the reading minutely of a few masterpieces. Instead of that there should be much wider reading, with less thorough and precise interpretations, and with the attention less closely fixed upon the structure of style. Grammar and philology belong to the last stages of languages, and to introduce them in place of the natural social methods of acquiring language and interpreting its meaning, is highly unpedagogical. The over-consciousness of form and method is especially harmful during the early periods of adolescence, when free expression needs to be encouraged in every possible way, and when precision and propriety in speech are unnatural.

Another source of insufficient results in language study in the higher grades is that language in the earlier periods has been received too much through the eye. In all the periods when the mind is most impressionable the spoken language is far more effective than the written word. The spoken word is akin to music. It has emotional effect, it conveys meanings that are not embodied in the printed form. So on the other hand, the substitution, as of late, of much writing for speech makes for a degeneration of the English work. The same principle is to be applied here as in reading. The habit of writing is a late acquirement of the race, and to bring it to the foreground in the developmental periods of the child is a violation of the natural order of growth. The child does not learn language by writing; his powers of



expression are curtailed and hampered by being bound to a written style which is never the same as the spoken language.

A fourth cause of degeneration in the vernacular is the growing preponderance of concrete words over and against the higher elements of language which deal with concepts, with ideals, and with non-material things. Some of this is due to excessive use of the object lesson, which ties the mind down to material objects, and thus hinders the development of language. Instruction is more and more busied with parts rather than with wholes, with analysis and not synthesis, and all this is a hindrance to the higher forms of language. The mind becomes helpless without its object of sense. There is an increasing tyranny of things seen, and a neglect of the things unseen, of things far away in time and space. The words used are names for acts and objects of sense. There should be more training in the use of language that is symbolic, and not presentative; which does not deal merely with contiguity in place and time, but that sees similarity, and requires abstraction and generalisation. Without this element in language higher mental growth is impossible. Such a lack of the creative imagination is one of the greatest defects of our present generation of youth, and it is because thought is too much taken up with mere imagery and the concrete words which express this imagery.

The text-book of English in the high school periods is usually very inadequate to the needs of this time of life. It is likely to be too formal, and it separates

the study of language too much from other functions that should accompany it. Often the purpose of the English course is intentionally not to teach the youth to think, to formulate ideas, but merely to help him to express in correct form the ideas he already has.

Such a method, which is the one prevailing to-day in the English departments of the high school, is all wrong, for it sacrifices content to form. The formal aspects of language study have their uses, but the mistake has been made quite universally of putting them into the central place in all work with the vernacular.

At least a few improvements in the language work of the higher grades are clearly indicated by genetic studies of the psychology of youth. The greatest need is for some means of securing greater flexibility of both thought and expression. The two cannot be separated, and the attempt to do so accounts for much of the failure in teaching the vernacular. The English work should first be made a greater stimulant of thought and then of free expression of it. The youth needs to have his vocabulary widened; he must be encouraged to freedom of speech, to have less consciousness of the form in which his words are uttered. It is precisely at this point that the errors of the present methods of language teaching arise. The self-consciousness of the school-child is increased rather than diminished by the critical methods employed. The self-conscious youth often fears to speak or write, because of the criticism of word or letter to which he is subjected. The other extreme would

be better; there might even be an encouragement of eccentricity and individuality of language, of slang even, if by these means the mental reaches are stretched. It is always true that what is new and vital in thought cannot be expressed in precise language, and to check the deepest thoughts of youth by grammatical rules is wrong in the extreme.

For material of the English work in higher courses, there is a vast store, excellently suited to youth, but as yet little in hand. In the great national epics are just the stimulating themes most suited to bring out the thought and expression of the growing youth. Such material is ethical to the core, and the simple reading of it without study of content is educational to a high degree. In this literature colossal characters that appeal to youth, and thrilling and dramatic incidents, will be found. The northern myths, especially, which are more sublime, though less beautiful and finished than the southern, are the best of all food for youth, and the best material for work in the vernacular. Here are the beginnings of our modern ideals of the gentleman, and of the spirit of chivalry and valour; here the moral and æsthetic are in close union; content prevails over form; and all is stimulating to sentiment, and appeals to it and not to the critical and analytic faculties.

But interest in reading during the high school age should not be confined to the literary materials as such. Both boys and girls should read in the field of nature literature, and in modern science. In the middle teens the boy has a passion for frontier ques-

tions of science, discovery, invention, and mechanics. All this is good material for developing language, and control of the vernacular. The youth must read far and wide, and must learn to have command of many books. The mind is susceptible to new interests and may be led along many ways, superficially, but with the effect of greatly broadening range of powers, both of thought and of expression. It is important to be able to use a library, to gain a slight acquaintance with many different styles of literature. There is a place for superficiality, as is not sufficiently recognised by the teacher of English. The wide-spread evil of novel reading on the part of young girls is due in part to the lack of substance in the English work of the school, which does not sufficiently satisfy sentiment and a natural craving for experience. Boys are safer, when allowed freely to follow out their own interests in reading. They select literature that on the whole is more normal, and that inculcates manly virtue, the spirit of adventure, and practical interests. Literature that idealises crime is, however, one harmful variety which the boy is prone to select.

Another great resource in language training is the drama. In the drama vivid feeling, action and language unite in a way most stimulating to thought, feeling and expression. Both passively, in witnessing the drama, and more in participating in dramatic action, the powers of expression are educated.

Another resource in training in the vernacular at adolescence is discussion or debate. When the instinct of combat arises at early adolescence there is

often a passion for this form of self-expression, and its possibilities for education are very great. In debate, all the practical interests of the youth can be brought to a focus, and be made the centre of natural language development. The attention is drawn away from the language in itself, and is fixed upon content, as it should be. When there is something to say that expresses a deep interest, language will take care of itself; expression may be rough and unconventional, but a foundation is thus laid, which later work in rhetoric can refine. Language thus created, and made practical and individual, is the normal product at this time, much more truly the possession of the youth, than language acquired by the formal theme. In such formal work the child copies, and does not create; he imitates classic styles, which are foreign to his own interests, and which hamper expression. Whereas, in debate, individuality is expressed; the youth finds himself in a social situation in which he must create thoughts and express his own individuality in language, a situation in which feeling moulds style and shapes language from within.

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## CHAPTER XVII

### FOREIGN LANGUAGES

THE question of the teaching of foreign languages in the schools involves many considerations. The value of the subject must be regarded, the time best suited to its teaching, and the method. Certainly the golden period for beginning any foreign language is between the ages of eight and twelve; for then memory for words is best, the child is passive and plastic to drill, bears dull work best, and accent can be perfectly acquired. If languages are to be taught by the reading method, and especially if dead languages are to be learned, acquirement of the rudiments of grammar and vocabulary before adolescence sets in saves much unpedagogic drill later, at a time when the youth is least of all fitted for it. Excessive study of languages, now almost universal in the high schools, takes time that should be devoted to content studies.

At the present time, when we are threatened with a Latin invasion in the schools, the whole matter of the value of foreign languages and the question of the relative merits of the dead and the living languages must be taken up again. If Latin be a poor culture subject, the present state of affairs is unfortunate to the point of pathos. At the present time more chil-

dren in the high schools take Latin than any other study except algebra, another formal discipline. About every science has declined in the high school. Even Greek is slowly dwindling, but Latin has now risen above the fifty per cent. mark. History is advancing, though slowly, but has been passed by English literature, usually taught in a formal way. All this means that formal studies are taking precedence over content studies. Though it is true that more children begin the study of Latin than any other language, it is also true that more soon drop it altogether, and that it is the most prevalent cause of the early dropping out of the high school of great numbers, who find no interest in it. The same phenomenon presents itself in this case as in truancy, the cause of which is shown to be insufficient nutrition. The body becomes restless and seeks a new habitat. So the mind, starved by formal studies, breaks away from the school and seeks more active stimulus.

The claim of the Latinists is that the culture value of a language is increased by its being a dead language, that the mental discipline is increased by separating language from content, and that translating is highly educative. But the errors of this method are very many. The greatest of all is that the teaching of a dead language violates the principles of genetic psychology. It puts a formal, contentless study into the period when the youth most strongly craves nourishment of intellect and feeling. The Latin course is often negligent, both of moral and literary aspects of its culture material, and becomes a study of the

structure of a language, a branch of philology, which has been one of the latest developments in the growth of sciences. The translation methods interfere with the natural growth of the vernacular, and that too at a time when it is most susceptible to stunting and narrowing influences. Instead of broadening the intelligence by the possession of two languages, the effect upon the youth is that his one language becomes a hybrid of classic and modern forms. From this he tends to break away into slang and other linguistic excesses, to satisfy a normal craving for self-expression. The study of a dead language tends to cast interests in ancient models, so far as it arouses interest at all; and to encourage the youth to look backward upon a golden age in the past, rather than toward the future. The amateur student never rises to the point where he can think in his Latin, and his translation work is usually very imperfect. A language normally expresses a living reality; it is something in which one thinks about living questions, but Latin can never perform such a function in the student's mind. It is, therefore, always a dead husk, and from its very nature, it must be.

In our day only use-value is real; knowledge must be definitely applied. There is no general ability that can be trained by certain subjects, and then, once developed, be turned in any direction. Reason, imagination, memory and the rest are from first to last specialised by nature, and must be so by education. More and more American talent goes into business and politics, and we need more and more to know how



everything looks from living modern standpoints and to have the mind turned toward living problems of the present and future. In all these incitements, Latin fails. It is antiquated in content, and its methods are less advanced than those of any other subject of the curriculum. Some teachers seem almost to think that it is wrong pedagogy to try to make the subject intrinsically interesting, but put all emphasis upon the training value of the work of patient translating.

If ancient languages are to be taught at all, they should be brought up to the standards of modern pedagogy and psychology. It is likely that, when the pedagogy of these subjects is better understood, the study of all the great ancient classics will be begun in the mother tongue, and the study of the structure of the language will follow and not precede acquisition of a knowledge of the meaning of the language and the life that it expresses. In all work with foreign languages there should first be cursory reading, with interest in the content, and not in the language itself. The novice should be read to, and with, by the teacher. The ordinary methods of use of the dictionary are most wasteful of time and energy. The student gets no inspiration from the content, and is likely soon to drop language study altogether because of its lack of natural contact with his active interests.

Contrasted with the faults of the dead language, the modern language has many advantages. One is that it is readily acquired beyond the translation stage, and thus the child may actually have two languages, and think in both, rather than one mongrel language,

as he tends to have as a result of too much study of Greek and Latin. Only by actual command of the language to the point of free expression in it are the best results obtained. This is an open road to many intellectual outlooks. Nothing so arouses an interest in the activities and thought of a foreign people as a practical knowledge of their language. It is this kind of language work, done with practical motives, that is most needed, especially in our own linguistically isolated country. More attention should be given, therefore, during the periods of greatest capacity to learn languages, to the study of the live languages of foreign countries, and less to the classics. The method of oral instruction must always come first, and interest in content and use should take precedence over mere reading and the study of structure. As soon as possible the child should acquire a lively interest in the life of the people whose language he studies, both for the sake of his language study, and also to broaden his outlook upon experience. But even thus we fall short unless we teach a language to the point where it becomes a permanent possession that is constantly put to use. It is the aim of all language study to enrich life, and it is never for the sake of the language alone, much less for the discipline of studying its form. Languages should be learned one at a time, and probably serious study of any ought not to be begun before the age of ten, and a second language perhaps only two years later.

## CHAPTER XVIII

### NATURAL SCIENCES

THE secret of the need and the method of all natural sciences is to be found in the love of nature. We are in danger of forgetting this in our systematisation of courses, and overlook the fact that any teaching of science that takes away the natural love of nature, or that makes nature seem less near, is wrong. It is not an intellectual need alone that nature study fills, but an emotional want—a religious longing. Nature study must appeal to the practical interests of the child: it must be carried on in the closest relations to daily life at all times. In modern city life we have taken the child away from an environment in which he was largely his own nature teacher, and have put him under the influence of artificial conditions which lead the mind away from nature, prevent lingering in the stage of nature interest, and thus tend to ripen adult interests before their time. The function of nature study is to bring the child back again to the nature from which he has sprung, and with which he has more points of contact than we yet fully know. Nature study, thus conceived, is at once seen to be one of the corner stones of education. Science, art, liter-

ature, and religion are the four chief branches of the curriculum, and every one of them has its origin in nature study. Therefore every department must have, as one of its purposes, the cultivation of a love for nature. This is the basis of all later interest, and it is useless to try to teach it in the higher grades if it has not been instilled into the mind in childhood.

Appreciation of such a point of view as this is the explanation of the present return of interest to the nature subjects. Especially in the lower grades has the influence been felt, but changes are beginning to take place in high school, normal school, and college, in the direction of teaching in accordance with natural interest and the love of nature. The rapid multiplication of nature books for children in recent years is one of the best evidences of the growth of the nature idea in education.

In the teaching of nature to the child we must follow the order of steps through which the race has passed. Therefore it is certain that in the child's science the mythical and the practical, the general and theoretical, must come before the exact and pure science. For the young child, the two attitudes represented by the mythical and the practical go side by side. During a number of years the child responds greatly to appeals to the practical side of his nature. He is a young utilitarian, and is interested in that with which he can do something. The active interest that can so easily be aroused through nature study can thus be made to mitigate the growing evils of confinement, sedentary attitudes, and the institutionalis-

ing influences of the school, and bring into the work the spirit of free activity.

Interest in living forms should always precede interest in inanimate nature. The deep instinctive love for animals and flowers, must first be drawn upon. Interest in stars, in weather, seasons, rock-forms, and crystals comes later. The most promising of the as yet undeveloped fields of nature education is the study of animal life. Children, at certain stages of their development, are nearer to animals than to adults of their own kind. Heredity has stored up in the mind the capacity for unlimited response to the teaching of animal nature, if it be approached in a truly genetic order. The domesticating instinct, which has been stronger in woman than in man, is shared by the child, and upon this the work of nature study can rest.

How little we have as yet appreciated the possibilities of nature study for the young child can be seen in our prevailing methods of the school. Geography, in its earliest stages, should be primarily a natural study of out-doors in the immediate environment, including human activities, and should lead from that to an interest in a wider nature and life. Instead of this, the geography, as represented by the text-book, treats of everything without coherence, ignoring for the most part the genetic stages and nascent periods of the child's interests. The all-inclusiveness of our American geography, however, provided more coherence were given to it, would have its good features. Geography must be made a means of exciting interest in many subjects. To this end we need primers of the

different sciences that are included in geography. There should be one, giving an epitome of astronomy, another telling the story of the earth — that is, an introduction to palæontology and geology — with many illustrations of landscape, shores, mountains, rivers, deserts; with representations of mines and mining, erosions, and weather. We need also an introduction to botany, telling about the activities of man's forebears — about forestry, uses of woods, domestication of plants, the history of agriculture. Zoology for the grades should embody the view-points of natural history, together with economic and other material. There should be texts concerning races and their modes of life; and the subject-matter of civics should be presented in a way to teach the basic principles of active and intelligent citizenship.

Maps, diagrams, and schematic illustrations, which take the child's mind away from natural objects, should be greatly reduced in number, and the geography textbook should be used as a book of reference rather than for close study. There should be collections of pictures, and as many natural means of representing nature to the eye as possible, but the centre of interest must be in actual out-of-door life.

At adolescence comes a period of revived interest in nature, when the genetic order must be accepted as the basis of work. Again the mythical and practical, the general and theoretical must be kept in the foreground, and whatever is formal and exact made secondary. Pure science, or science for its own sake, is a late product of the race, and must come late in the life of

the child. To analyse and dissect and to study form minutely is a part of the last stage. First in the genetic order comes the mythical and the sentimental. Sun myths, moon myths, and folk-lore form an ideal introduction, and must precede all mechanical and scientific interpretation. Then comes the practical aspect. Here the contact of nature with the daily life must be the theme. Nature must be studied alive in the field, rather than in the laboratory. Next comes the stage of utility, of the application of science to hygiene, to machinery, and to commerce and processes of manufacture. The child must learn how forces are made to serve man and to produce values. Last of all comes the pure science, science for its own sake, freed from all myth, genetic stage or utility, and with no motive but the love of truth.

Both racial history and the study of the nature of youth direct that nature first be taught in a comprehensive way, with much of the spirit of nature worship. We must have an introduction to nature that touches lightly upon nearly all the greater themes and frontier hypotheses, syntheses which contain something of the poetic and the ethnic, and which present to the mind the universe as a whole.

Running through all these aspects of nature teaching is the one principle that the basis of teaching should be the principle of evolution itself. In biology the themes of heredity, variation, recapitulation, natural and artificial selection, the struggle for existence, development histories, lessons from palæontology,—all such large themes—form the most practical science

for the secondary school. So in all other sciences, the large and the general must precede the minute and the particular.

Thus it is easily seen that the order of teaching science as commonly practised, especially in the secondary school, does violence to the nature of the child. Science too often begins with classification, the learning of Latin names, dissection, and analysis, when it should begin with the whole. There is too much of accurate observation and memory, too much drawing of forms, too much use of the microscope and the study of scientific formulas, which destroys all interest in real live nature. The point of view becomes that of the disinterested spectator rather than of the lover of and participator in, nature. It makes nature seem dead and far off, when it should be near and at every point full of life. There is too little of it that takes the child into the field with a wholesome interest in nature as a whole.

The genetic point of view, which demands that the large and general be taught before the minute and particular, has already been illustrated in biology. It should pervade all methods in the teaching of sciences, not only of animate but inanimate nature. All studies of man must begin with his descent, his primitive modes of thought and feeling, the growth of his art, industries, social life, culture; the development of science, morals, and religion.

In physics, as now taught in the secondary school, the effect of the lack of the genetic view-point can be seen in the failure of even the best teaching and the



most expert planning of courses to excite interest, and in the steady decline of the subject throughout the country — and this in spite of the fact that physics is the foundation of all sciences of the higher education, and when rightly taught one of the richest in content of all subjects of the curriculum. The reason is that the method of attack does violence to the nature of adolescence. We try to make the high school boy do college work. We set him at work with details and mathematical formulas, when he should be brought face to face with nature. There is too much quantitative and minute work, too much mathematics and too little dynamics. He needs to know about fundamental forces and frontier questions. He has a passion for stories of the great men of science. He wants demonstrative experiments. In a word, he is in a stage of popular science. He is dominated, too, by a utilitarian instinct. There should be more application of the principles of science to things the boy is interested in, to the problems of his daily life. The work of science should be co-ordinated with other subjects and activities of the school. Especially should there be connection between the manual training and the physical science, so that the youth can make something practical and apply his science at the same time. There are many possible points of contact between the two subjects. The boy can be interested in making apparatus for experiments. Scientific devices used in magic can be produced. There may be glass working, making of thermometers, engines, machinery, tools: subjects which lead into the very centre of scientific principles.

Photography may be included and should be taught both in its practical and scientific aspects. Many principles of physics can be conveyed also by such practical work as book-making, rubber work, and other industries which arouse many motives and interests.

Another weak point in the teaching of science in the secondary school, where the evolutionary view needs to be applied, is the botany course. This is the girl's best science. Her interest in plant lore, and in the culture and care of plant life, is a strong incentive to deep scientific interest if the approach be wisely made. Too often botany begins and ends with collecting, analysing, classifying, and learning Latin names; a method that yields little of educational value and that detaches interest from live nature and its deepest problems. Whereas, rightly taught, there is no subject that equals botany in educational influence and benefit, especially for girls.

The principles of genetic development indicate plainly the order in which interest in plants should be aroused. The first is the folk-lore stage, and on the practical side, the natural interest of the child in tending growing things leads to definite interests. Both the imaginative and the practical motives must be drawn upon, and can readily be used in creating enthusiasm for school work. This is the golden opportunity, too, to lay wider conceptions of the spiritual through appreciation of life in nature—and at the same time to incite to activity in the real world, leading on to industrial and social interests.

Scientific study of botany should begin with the

large problems, such as fertilisation, commencing with the relations of blossoms to insect life, and thus teaching the whole philosophy of sex in an objective way. The history of botany should be taught, and acquaintance made with the great lives that have been devoted to the science. The development of its important themes and theories must be made known. Something, too, should be learned of plant lore, mythic plants, religious aspects of plant life — and, on the other hand, of the practical problems involved; of the relation of plants to diseases, to the struggle for existence, to commercial and industrial life; and all this should be made to keep pace with the theoretical knowledge. Minute laboratory work should have but a small place. There should be but little drawing of specimens, more should be taught without specimens at all. There is little place for experiment in the laboratory, for there is so much work to do in the field, in presenting nature as a whole and alive, that the minute parts need but little attention. Only by thus presenting the large and natural aspects can the proper relations between the emotional life and nature be maintained, which are so all-essential at the time of adolescence.

REFERENCES.— 107, 120, 151, 162, 166, 176, 196.

## CHAPTER XIX

### ELEMENTARY MATHEMATICS

THE mathematical sciences are often called deductive, and because of this supposed method they have been given a distinguished place and value in the *training of the mind*. In this work, proof is regarded as first in importance, and the pupil is directed at every step to perceive logical and necessary connection. This view pervades most of our present teaching of mathematics, and yet it contains errors that may easily lead to a wrong conception, not only of the function of mathematics in education, but of the nature of the mathematical sciences themselves. As a matter of fact all branches of mathematics are, in their origin, purely inductive. It is just because induction, in these sciences, is so rapid and complete that we have a body of conclusions now so extensive that they can be applied deductively. Their place in education rests upon understanding this. The child repeats the race—therefore, in his studies of numbers and quantities, his mind must be kept at first in intuitive rather than in logical attitudes. Proof, which actually came late in the development of the science of mathematics, must come late in the child.

Number, as we experience it, as adults and prac-

tised mathematicians, is a complex idea and process, and to understand its genesis and place in the mind of the young child is not an easy matter. It lies at the root of temporal and spacial ideas. Temporally it represents successive strokes of attention, and so is rooted in all acts of discrimination and differentiation which divide and demarkate, and also have a tendency to group integers rhythmically. Much the same process goes on in space. Natural differentiation and grouping are the beginning of the interests that lead to manipulation of space and to the science of geometry. So the background of all our arithmetical and geometrical concepts is the primitive idea of succession which has its beginnings in the simplest acts of attention. This leads finally to counting, but it is established long before there is any conscious idea of number. To this primitive series, the young child learns to attach names, but at first his counting is not a precise enumeration of external objects, and there may be much interest in the number series before counting as such is finally perfected. These native acts of becoming conscious of series and number are the basis of arithmetic. Arithmetic does not begin, therefore, as a rational process of treating numbers and quantities, but in automatic and habitual acts.

Now the key-note of all work in arithmetic is the manipulation of this number series, using all its native roots, and following the order of the genetic steps. Thus considered, several aspects of arithmetic have had in the past a mistaken emphasis. There has been too much haste in acquiring processes and formal

procedures. There has been too much written work. There has been too much haste in using large numbers. Much of the practical and object lesson method has been unpsychological. Instead of this, all the work should at first be done with small numbers, without any attempt to separate rigidly one process from another; and the effort must be put upon increasing and directing the natural enthusiasm the child has for the number series, and upon showing its possibilities—to make the mind agile and alert to all the changes and manipulations of it. This work should be largely mental and oral, so as not to confine the child to what he can merely see and handle. Everything should be done in imagery, and not in abstract conceptions, and in this connection it may be said that we probably do not yet understand to what use the child's natural interests in number forms (which represent his first attempts to correlate numbers with space) may be put. In this field of natural arithmetic, the manipulation of the number series, the powers of the child are sometimes astonishing, and the most possible must be made of them, for this is the foundation of all later mathematics. The aim should be to secure rapidity, alertness, and enthusiasm, working with high pressure, bringing all the mental powers to bear, and yet avoiding fatigue. In this kind of arithmetic the racial order is preserved. We keep close to primitive, intuitive methods of work, and avoid everything that is abstract and meaningless to the child. All the higher stages of arithmetic are here involved and practised, and all processes are equally

easy in the use of small numbers. In counting up and down the scale in various ways, we can get all the processes: adding, subtracting, multiplying, dividing, fractions, percentage, and all the other basal processes of arithmetic. The first work on paper should consist merely of writing out processes that have already been made familiar in the oral work with small numbers.

Similarly, in making a beginning of geometry we must take care to enlist the native interests of the child in intuitive space study. All the natural geometrising interests must be made use of. We must cultivate the interests in æsthetical spacial design and groupings in order to excite mental activity, and must use these and other devices to stimulate the visual powers, which are needed in both arithmetic and geometry. This is a racial step, preceding all definite, logical geometrising, and its cultivation can do much to prepare the mind for the later work. There is abundant evidence to show that among peoples far below the scale of those who possess even elementary geometrical conceptions, spacial manipulations in design and grouping have a fascination for the mind. This interest of the child should be stimulated by the use of charts in the schoolroom containing the Lay and other dot groupings, as well as magic squares, number puzzles, and everything of the sort that can impress the child with the mystery and the magic of numbers and spacial relations.

Not the least of aids in teaching mathematics are to be found outside text-books and conventional

school methods, in sources of which the teacher usually knows but little. Many games are excellent for training the sense of number and geometrical relations. Dominoes and dice can be used in many ways for mathematical purposes. Geometrical interest is helped by construction work such as paper folding and cutting. Labyrinths, some games of solitaire, chess, puzzles, are all useful in this connection, as are many forms of simple apparatus and laboratory devices. Drawing, also, and figure tracing employ mathematical abilities. The study of models of snowflakes and other crystals, mathematical tricks, and conjuring experiments, add to and broaden mathematical interest. All these appeal to native or phylogenetic roots, and so are economical means of developing interest in the child.

All such facts and principles tend to show that, in the teaching of mathematics to young children, free mental activity must always be aimed at. There is more in the mind of the child than can be brought to definite expression in his daily life. Therefore the practical arithmetic has but a secondary place at first. But when the time does come for applied mathematics it should be taught intensively and be made a means of bringing the child into vital touch with actual business and industry. We should bring it into relation with carpentering, and with business methods such as banking and accounting. We should take from the practical mathematicians all they have to offer in the way of expert methods, short cuts, and all other devices, not letting a love of system stand



in the way of plasticity and interest. The practical interest must now be made to dominate the work, just as the free expression of number interest did in the stage of manipulation of the series. In all this work, and in fact in all teaching of mathematics after the first three grades, there should be more specialisation on the part of teachers. In no other subject can so much time and energy be saved by expert teaching, by one who has a thorough understanding of mathematics as actually used in practical life. The presentation of mathematics as exact science, in which logical proof is the ideal, comes last of all, and must depend upon the stages that precede it.

REFERENCES.—E. P.

## CHAPTER XX

### HISTORY

THE most important item to be determined about any subject in the curriculum is why it is taught; what the aim is, what it is expected to do for the child. History is so vast a subject, is so complex, approachable from so many standpoints, and for so many purposes that it is especially necessary that the reasons for the presence of this subject in the school be clearly grasped. What is the function of history? Should it serve primarily to teach the laws of cause and effect in human affairs? Is the main purpose to teach how to study? Is it to teach to see events in temporal perspective, as products of growth and development? Or is the object more practical—to make intelligent citizens by inculcating lessons of duty to state and society; taking the standpoint that history is past politics and making it principally a subject for boys? Is the function of history to give a background for literature, science, or other studies? Is it to enlarge the horizon of the young, make them citizens of all times and climes?

All these purposes which have from time to time been proposed, it can be claimed are partial. They are all important and vital ways of looking at the history problem, but they are not the whole nor the

highest truth. The chief end and aim of history is to teach morality, to help to shape the natural goodness of the child, to stimulate thought and interest in moral behaviour, to teach the infinite difference between the good and the bad, between justice and injustice. Especially at adolescence this moral purpose of history should never be lost from sight. It should determine every choice, both of method and subject-matter, in the historical course. History should so impress intelligence and will as to inspire to the greatest degree ideals of social service and unselfishness. That is its true mission.

To further such an end in history two radical changes are much needed in the schools. No subject is more inadequately represented, worse taught, nor so hampered by insufficient preparation and lack of breadth of knowledge on the part of the teacher.

The greatest need is for special teachers of history. The subject demands that the mind of the teacher be inspired with enthusiasm, be full to overflowing with knowledge, have ready command of copious illustrations of its lessons, gained by wide and diligent reading and thoughtful interest in the work. Only thus, with inspiration and full command of the resources, can history be taught effectively to the young. The second need is that history work be extended over all the years of the school, be increased in amount, and be better adapted than now to each stage of development of the child.

The beginning of history can be made, in the first years, by story telling. The love of the story is the

beginning of the historical interest of the child. This work should be developed into a high art, and courses in story telling should be included in all normal schools. History for the young child should go back to its racial origin; to the myth, the folktale, and the fairy tale. Later, select stories from the Old Testament can be made the centre of the historical work. These appeal with great force, at a certain stage, to the child's dramatic sense, to his love of battles and law. Selections may follow from the Odyssey, the Norse sagas, tales from Shakespeare, Herodotus, Livy, and Xenophon. These are all stimulating to the historical sense, and create interest, upon which, later, more exact historical work can be built.

A second period for the romance of history comes in adolescence, during the middle teens. The history of that which happened nowhere, and which could have happened anywhere, is at a certain age the best to influence innate powers. History must suggest for all the power that makes for righteousness, which we can see at work in the progress of events from age to age; and once in a while the teacher must rise to the great argument that justifies the ways of heaven to man. The taste for old legends like those of St. George, Arthur and the Round Table, and the Grail has not weakened at sixteen, and these are now capable of taking on new meaning, and of being made the centres of interest in history and literature. These things now lie nearer the heart of the youth than the latest local history, for wherever the world is young, there the child is at home. Historical ma-

terial can now be used as one of the best aids to literature and language. Much of the old literature needs but re-editing to be of the greatest service to youth in many ways. All that part of our literary possessions which has survived for long periods in the oral form is valuable to a greater extent than is now understood; for in these tales the moral has been most fully expressed, and they appeal irresistibly to the innate and unformed morality of youth. Nothing is better for impressing upon the mind the infinite disparity between the good and the bad, the laws of right and wrong, of justice and injustice. A cycle of events grouped around a great ethical problem is interesting to youth, and nothing surpasses such material in power to meet the moral needs at a certain time of life when it is of the utmost importance to give the very best.

The question of proper methods in teaching history is a difficult and complex one. That history, in being taught, should pass through the stages in which it was lived, seems certain. One point is to be avoided, a fault usually found in the present method of teaching history. There should not be too much insistence upon historical unity and connectedness. Connectedness, completeness, and unity are not needed in the history work up to the time of college. Rather the striking, the impressive, that which may have the deepest moral effect, must be selected, and the dullness of sequences and causal chains avoided. The child must be impressed, affected, must absorb and imbibe, and there must not be too much learning of

facts, nor training of the judgment and reason. There is too much lesson setting and hearing, too much examination of the memory, which always makes learning superficial. All these are faults due to the devices of poor teachers. The reason for this necessary evil is that the teacher is not richly enough equipped with materials to teach. He does too little teaching, and precious time is lost in hearing recitations which should be given to inspiring and suggesting. Another prevalent fault, in the teaching of history, is that the immediately practical application to politics, to business, and to the questions of the day are too much in mind. There are things in a republic higher than constitutions. History must be made to impart the power that makes for righteousness. It must touch and rouse the religious instinct and normalise the relations of the individual to the wider reaches of time and space, and fill his mind with thoughts of its meaning for his own life in its largest aspects. It must be taught with reference to the present and the future, and therefore history must sometimes be taught backwards as well as forwards, when by this means its lessons can be made more real.

Such a conception of history demands much of the teacher. He must have strong resources and command many methods and devices. There should be an abundance of material aids, in which the teacher must be thoroughly at home. There must be maps, charts, pictures, curves, tables, vital statistics; and now the stereopticon and the motion picture must be considered in the teaching of history. There should not

be too much accuracy and detail in teaching, for this hampers the larger view, and the teacher need not be afraid of the charge of being unsystematic and superficial, if he can thus better convey his message. There are many methods, and no one is best. The teacher must adapt everything to his own needs. There should be much oral and narrative teaching, with a text-book used only as a basis. There must be collateral reading. In the high school stages there should be some use of the sources, much note-book making, dictation, and library work. There should be but a limited use of the method of class discussion; for an excess of this, and of imitation town meetings, congresses, and the like tends to make pupils argumentative and superficial and to foster a disposition that is already too prevalent in our schools and in our national character. The business of the student is to learn, and of the teacher to teach. History, moreover, is a story to be told, not a lesson to be crammed. Nor is it enough merely to impart knowledge in this richest of fields of learning. Here, as in almost no other subject, is it demanded of the teacher that he truly teach. Here his opportunity is the greatest, and his failure from ignorance, indifference, or a narrow conception of the needs of the child or youth is most complete. The difference, at the greatest, is between learning a few dates and facts, and having the mind filled with moral lessons and ideals which will remain as living forces throughout life, influencing conduct in fields very remote from all the lessons set or taught.

## CHAPTER XXI

### MUSIC AND DANCING

WHEN once the psychology of music has been brought to light, its important function in education cannot be ignored. Music, more than any other mode of expression, is the language of the feelings; and, therefore, musical culture is the most liberal and most humanistic of all studies, perhaps not excepting even literature. There is need of an awakening to the possibilities of musical education, especially in America, for not only is the quality of our music, both in the school and elsewhere, very poor, but as a nation we lack sentiment, and are in danger of becoming arid in all our emotional life. Music adds new and brighter colours to experience. It frees us from false and bad feelings, gives us a fuller life, makes us expressive. It is, therefore, not for the few alone who have talent, but for all. All may at least appreciate music and partake of its educative effects.

If we seek deeper explanations of the power of music, we can say that music is the expression of the mind of man that is larger and deeper than the consciousness of the individual. It comes from the generic



and ancestral life, and appeals to the racial in us. The most fundamental quality of it is rhythm. The mind responds to rhythm because, from the very beginning of protoplasmic life, rhythms have played upon the senses and have been incorporated into the most basic physiological processes of the organism. The body has responded to rhythm long before there was a sense of hearing. The function of music is to awaken in us the echoes of ancestral experience, and to stimulate to action the rudimentary organs of the mind. When we listen to music we experience what the race has done. Its loves and fears reverberate in our minds, deep down in the consciousness, whence they are incapable of being brought to clear understanding. In our music we rehearse the joys and sorrows, victories, defeats, longings, exultations and depressions of those who have gone before us. And there stirs within us, too, the impulse to go beyond our present limitations to the future and the ideal. Thus in music we realise a broader life, both in the past and the future, than is contained within the conscious limits of our personality. Music is the most generic speech, for in it the mind participates in the whole meaning of the universe, as though it remembered the time before individuality was separated off from the whole. These are the reasons why music arouses every mood of which the human consciousness is capable, why it makes us feel that the world is lawful, and gives us a sense of freedom as though we lived in a world in which nothing is impossible. This is the reason, too, why music so

early awakens a response in the young child, and why nature scenes and moods are suggested by music in all responsive minds.

If music be thus correctly interpreted, it is difficult to overestimate its importance, or to mistake the purpose it may serve in education, and the manner and spirit in which it must be taught. First of all music must be made to educate the feelings. To do this there must be acquaintance with much of the best music in the world, with always the main interest in the sentiment that is to be taught by the music. Knowledge about music, about technique, structure, significance of notes is of minor importance. There must be nothing of the theory at first, and even in the higher schools the theory should be secondary and subordinate. To the young child music always has meaning and content; it appeals to his feelings directly. In music he needs to hear about the great themes in which his feelings are involved, and in no way can they be better conveyed to his mind. He may thus absorb the mythopœic themes which can be told at their best only in rhythm, in music, and also in poetry. His music must tell him of home, country, the flag, religion, nature; and it must be made to broaden all the emotions which inspire these themes. Music, for the child, should have something of its historic setting. Its story should always go with it, for in this way it can be made to express the very soul of great men, epochs, events and races, and indeed of all history.

The origin of music in primitive times affords unmistakable clues to the order and method which must

be adopted in teaching it to the child. Music did not originate as harmony or melody separate from other æsthetic motives. Sight, and especially movement, were involved. Rhythmic dancing and other forms of expression of feeling by movement accompanied the expression by voice and instrument. Thus sight, sound, and movement were combined, the basis or co-ordinating principle being rhythm. Likewise in the child's mind, sight, sound, and movement go together, and they should not be separated in the early stages of musical education. The purely rhythmic stage needs great and early emphasis, and we can say that music for the child must always be made to appeal to motion. To learn to read from notes before there is a wide knowledge of music through song, or in any other way to distract the attention from the feeling, or to limit self-expression is wrong. The child's music is at its best when it is free and natural. Thus there is a profound sanction for the dramatic expression of music by the child. When he plays his part, singing, dancing, and representing, he is the nearest to participating as a whole person in a process of learning or self-education that he will ever be. It must never be forgotten that the prime intention of the music of the lower grades is not to learn music as such, nor to train the intellect, but to teach children to feel nature, religion, country, home, duty, and all the rest of the deepest themes of life.

To what extent primitive music, as the genetic view seems logically to assert, may be used in the early stages of musical culture is yet to be discovered by

experience. It seems, however, that we have overlooked stages of interest in music which should be filled out by an appeal to primitive forms of music, and that the best of it should be worked over and arranged for the child, in ways in which we have not yet made a beginning.

At early adolescence again there comes a time when feeling is dominant, when all the emotional life is plastic and in a state of flux, and when, therefore, it is certain that music has great educative value. It can then be made in a wonderful way to control the mind, to educate the sentiments, to assist in the struggle that now takes place in the individual to reach the highest maturity. It seems as though all must admit that our present musical standards are too low, when its functions are thus judged. As a whole, present school music is lacking in ethical and educative qualities. Music is isolated too much from its broad basis of rhythmic movement, accent, cadence, inflection, and feeling generally. Much of the school music now in use is chosen with too much reference to the standards of the musical critic and too little to the needs of youth. It is too special and too technical. We forget that our music has had a rapid growth, that it is an intricate and finished product, much of it remote from the interests of the child. Programmeless music came late in the race; it should be late in education. Music must be judged in other ways than by expert criticism. So important is it to select the right music for the period of adolescence that every tune that is admitted must be judged not only for

its æsthetic qualities but especially for its effect upon the moral life and mental poise. We must not forget that the first object of teaching music is not to make musicians, and that, so far as direct efforts of the music teacher are concerned, the purpose is far more to teach appreciation. There must be quantity and variety of the best music, both instrumental and vocal. Wind instruments appeal especially at the adolescent period. The violin also appeals to the feelings and may well be made the school instrument as it is in Germany. The new mechanical piano players widen the scope and opportunity of the music teacher, and should be used in every school.

The importance of the music course does not end, however, with the high school; for the whole period of adolescence, during its ten years or more, is a golden time for the education of the emotions by this fundamental means. The present status of music in the college is deplorable. The quality of the music that interests the student is poor, as is well shown by the glee club music prevalent everywhere in this country. And despite the fact that music, in its largest sense, is the most liberal and most humanistic of all studies, and therefore should be taken by the greatest number of students, it is now confined to the few, and is usually taken by these with interest predominantly in the technique.

No course in college should be deemed of more importance, nor more central than music. The professor of music is charged more than any other teacher with the custody of the emotions, and should regard

his work as deeply ethical and educational. He is a teacher of morals and religion, but he may easily become a teacher of immorality and an advocate of degeneracy and weakness; and if he puts musical form and technique before human interest his work may be but negative and mildly stimulating to the intellect, leaving the rich field of the emotions untouched.

It is not yet understood to what an extent the mind, even of the college youth, is susceptible to musical culture, nor how great is the need of prolonging far into adolescence interest in the great, deep, simple themes of music, such as attract even the child. There is a long period when appreciation may be far in advance of ability to construct or perform, or to take intellectual attitudes: when the mind must not be hampered by dissection and analysis, but when all the great composers must be heard and their meaning absorbed. And in the many who will never in any sense become musicians this attitude of appreciation must be especially cultivated, for its effect upon the emotions, and upon all the higher sentiments. Most of the world's great music should be heard and appreciated, understood, and known. Scores of selections should be known by heart. The simpler music, the folk-song, the ballad, the ethnic music should come first, and the mind should linger upon these great themes longer than is as yet understood. Gradually, as the foundation is laid, the works of the classic and later composers may be introduced. Even in the courses in composition the generic order must not be

overlooked. Work should begin with music of the type of the folk-song, and should pass from this up to the more purely musical forms. Through all the periods when, in the child and youth, expression in higher forms of art is weak, it must not be forgotten that simple music, richly set in gesture, posture, pantomime, and declamatory action preceded music of pure tone, and that tone and tune merely served to eke out a meaning which could only in small part be thus expressed; that in teaching the child and the youth the purpose is to appreciate the deepest meaning and to express it in whatever way is possible, and suited to the stage of development of the mind.

We need a much better course in the history of music than is usually found in the college. The lives of the great composers and musicians should be studied, and this historical point of view be made the basis of all the other intellectual work of the musical course. From the purely musical theme as a centre, knowledge should radiate out into other fields. The first accessory should be the study of mythology, for music has grown up in the race in connection with story, and the two should not be separated in the youth's education. The student of music must know the great stories of the world, both secular and religious, and all the higher sentiments must be cultivated if he would really understand his art.

**Dancing.**—Dancing occupies a place in education hitherto not understood. It has performed a large part in the education of the race, and it is capable of doing a great service to the child. It is more than

bodily exercise, for both mind and body participate. It is a means of expressing thought in the movement in which it originated, and most broadly conceived, it may be called a liberal humanistic culture of the emotions through motion. Feeling and movement are correlated with one another. Each may intensify or regulate and control the other. Hence the great possibilities of dancing in the education of the child. To understand these fully we must consider dancing both in its expressive and in its descriptive aspects, the latter including such movements as those of pantomime and pageantry.

Dancing originated in spontaneous expression of internal states. Therefore its first intention is not to communicate states of feeling, but to express them. It is also the basis of music, which likewise is spontaneous expression of feeling. Motion seems to be always the natural expression of musical feeling; therefore we must regard this relation as deep and fundamental, and consider it well in studying the practical application of dancing to education. We may probably assert that in rhythmic movement we reach a far older phyletic stage than even play itself. So immediate is the connection of the dance, or movement in some form, with musical expression that we can say that no music of any kind can ever be comprehended without a motor accompaniment on the part of the hearer. Music always means motion, or at least posture. All true music prompts us to act it out. Indeed much national music is based upon national dances and tries merely to represent the motion.



When the dances it expresses have been lost, our only means of having the whole of the music is to re-create the movement which originally suggested it. One origin, or incitement, of the dance is work. Many ancient industries were concerted and rhythmic, and out of these grew dances, when they came to be used as play, song, and movement. Many of these we still have as imitative action songs. They have a great value in initiating children into the spirit and movement of many human occupations through the aid of gesture and song.

Another source of dancing is play. In the play-inspired dances all the human emotions are expressed in movement. Joy, pain, grief, pity, anger, fear, jealousy, and love are thus expressed. Such plays have served a useful purpose, for they help both to develop and to balance the emotions by directly exercising the organs of control and expression.

Another great motive of the dance has been to express religious feeling. The religious motive has at all times sought expression in movement, and movement is still capable of educating this highest of all sentiments. Next to religion, of the sentiments, love has been the great inspirer of the dance. It has been used, not only to express this passion, but to arouse it, to control it, and even to act as a substitute for it.

These motives still lurk in the dance and the impulses that lead to it, and give it its momentum. Dancing, when unrestrained and free, still expresses these old racial activities, portraying the experiences upon which our ancestors lavished most of the energies of

their bodies and minds. It is this which gives the clue to the possibilities of dancing in the education of the child.

More widely considered, in its descriptive as well as its expressive aspects, dancing is almost equivalent to motion. All mental action has efferent factors, and it is only because now we have developed to so high a point of perfection the special form of speech, that we have lost and forgotten the possibilities of other forms of expression. We have little conception of what gesture has done, and can do, in expressing thought and feeling. In it there is a natural language common to all men, and out of it conventional languages of a highly special character, like the systems of speech of the deaf and dumb, can be formed. In our speech, in English most of all, we have gone too far toward eliminating movement. We have developed toward ease of expression, those sounds, like the E, which are easiest to express, being most frequent. The question is whether, at least in the early stage of language, ease has not been gained at the expense of richness of content and concreteness of meaning, and so has caused deterioration in the thought processes themselves. If this be so, a wide-spread revival of the motor factors of expression is needed, to restore our lost powers.

From this standpoint, which is the genetic, we can say in the most general terms, that the function of dancing, conceived in its broadest sense as it ought to be, is to restore the lost motor elements both to speech and to music, in order to rehabilitate the emotions and

feelings which originally accompanied them, to relieve racial experience, and to restore these stages of expression by means of the whole body to their rightful place in mental and physical education. Thus dancing includes not only the whole range of folk-dances and occupation movements of the race, its religious, war, and love dances, but all such forms of expression as mimicry, pantomime, gesture, and pageantry — everything which has in the past been a means of expression of thought and feeling, in the form of movement. In this way we restore not only the motor elements needed, because they are parts of a whole, but we bring back to thought itself something of its former vividness and intensity. Such a movement would tend to make thinking more sane and honest, as well as more vigorous, and would help to keep it in contact with real life. Considered in its more immediate physical effects dancing is not only exercise, but it teaches correct bodily habits, creates a sense of joy and freedom, cultivates rhythm, teaches ease and economy of movements, balance, control and bearing. By it all the sentiments, even the religious, can be cultivated.

The new dancing, which is as far removed from all we have had in the past of conventional dancing as can be conceived, should be taught in every school-room. The dances must be simple, rhythmic, and allow great freedom of movement and expression, and to understand the full scope of the dance we must always keep in mind the evolutionary view. We must regard dances as essentially narratives in motion, of

events which have persisted in the race, in the form of movement, after much of their original meaning has been forgotten. They are often old story roots, once accompanied by song. They contain a story which is now lost, but whose spirit, ideal, and mood they still express and restore. Thus dances are useful in education because they tell history, depict national traits, and express the thought and feeling of those who created them. The effect upon the dancer is to arouse these characters and feelings, to make him re-live the life of the race, and thus to widen and complete his personality.

The national folk-dances, especially, suggest themselves as a very rich field. Especially in America, where the immigrant problem is urgent, we should try to keep alive and foster an interest in these dances, for not only do they contain possibilities of social amalgamation and morality, but they are in a high degree educative. We should connect them with methods of developing our own national holidays. The work that lies before us is to select and teach the best dances from all nations, and adjust them to stages of growth and interest in the child.

Another rich field is the occupation dance. The mimetic performance of occupations, with the old songs that accompanied them, cannot fail to help to idealise labour in the minds of children. They contain just the rudiments of primitive and even modern industries and occupations that are fitted to give sympathy and zest both for toil and play, for they are at the same time recapitulatory of past experience and

preparatory for steps that are to follow. These dances stimulate imagination and observation. How much meaning they can convey may be seen from a study of the mediæval festivals of Europe, many of which were nothing else than the representation of physical toil in play and dance, symbols of man's conquest of nature.

At adolescence there is a great influx of interest in dancing, which our present ball-room dances are utterly inadequate to cope with. At this age girls turn rather to the more graceful and conventional dances and boys to the more extravagant, expressive, and unusual. There is now much latent talent that in our present methods never comes to expression. There is indeed, in dancing, quite as much opportunity, not only for expression of thought and feeling, as in any other art, but scope for the highest genius and originality. Children should be encouraged to express themselves in this natural way. There is now much opportunity for the teacher of dancing, which we still but imperfectly understand. The extreme infectiousness of the interest in dancing, the strange tendency, seen so often in dances of primitive peoples, to throw off restraint and to dance to the uttermost limits of endurance, as though the effort were to set loose all the primeval forces of the body and mind, suggest powers in the dance as yet unsuspected, and indicate that it may do far more for the body and mind than we yet perceive, at the age when the effort of nature is to expand not only the physical but the emotional powers, and to widen the individual

through racial experience. At least we can say that there is here a mode of physical culture which the evolutionary view asserts to be fundamental and normal. On the social side, it is likely that properly selected dances, representing the right stage of culture would make the very best basis upon which the sexes can meet in the adolescent years, and that all feelings can be educated by the dance, the religious, as well as any other.

REFERENCES.— 196, 248, 257, 263, 280, E. P.

## CHAPTER XXII

### DRAWING AND ART

RECENT psychology has tended to revolutionise the theory and practice of the teaching of drawing by bringing it into line with other subjects now directed by evolutionary views; and, by so doing, has fairly reversed many of the hitherto accepted practices, for almost no subject has been so dominated by logical methods as has drawing. The philosophy of drawing seems to have passed through several stages, in a very short time, from an acceptance of the old systematic method, to a day of experimentation, individual preference, and search for standard, correct methods, and finally to the prevailing view-point based upon genetic psychology, which, while it allows sufficient latitude for all good methods, insists upon a certain fundamental law which must not be violated in any subject.

This most general principle, underlying the teaching of drawing and all other instruction in art, is the law of the relation of ontogeny to philogeny. Studies of the child show that he follows, roughly at least, the order of racial development, in his interests in drawing, that his native instincts toward expression in drawing are strong, and that the ability to draw

is very complex, including several distinct functions and interests, each having its own nascent period and manner of development. Distinguished ability in drawing requires good powers of observation, clear memory, lively imagination, manual skill, strong feelings, and æsthetic sense.

In the past, the habit has been to ignore the natural interests and methods of the child, and to insist upon precisely the kind of work the child most especially rejects. This method has begun with elements, such as the straight line, and the regular curve, and with conventional subjects generally, ignoring entirely the child's insistence upon drawing the most difficult and complex of all subjects, the human figure in excited action, and therefore failing to make use of the momentum and imaginative fertility the child would bring to his work. In place of this reluctance to allow the child free choice, the new pedagogy of drawing gives him a free hand during the early stages, to draw that which will give him most pleasure when it is finished, and does not insist upon his drawing that which shall be most pleasing to the teacher, nor most logical as a step in artistic education considered from the adult's point of view. The aim is to encourage and stimulate interest and activity, rather than to repress and correct. Matter and not method, in a word, is made the first consideration. Quantity of production is placed ahead of perfection of finish.

These general points of view, in which the evolutionary principle is applied, and the many special studies that have been made of the child's interests in



drawing, enable one to declare with confidence the following rules to guide the teaching of drawing.

Matter and method must be judged by their value and meaning to the child. In this the attitude is so individual that mass methods and uniform courses are peculiarly unsuccessful.

The first stage in learning to draw, common to all, is the scribble stage, a stage of complete freedom of movement, which must be given all possible scope.

In the next stage, some idea or mental image begins to direct or control the drawing movements. The child now tries to express something. This is the age at which he draws stories. The aim in this stage should be to stimulate wide interests in the things about the child which can excite the imagination.

When the child has entered school, the suggestions for this expressive drawing should come from the work of the day; from history, geography, nature study, and reading. All through this stage the drawing should come from memory, rather than from direct observation of objects as such. It must still be free and playful, rather than in any sense artistic. The mental content must be enriched and made clear and vivid.

Not before eight or nine does the child attempt to copy objects in nature: that is, to reproduce things in nature as they actually appear.

Systematic art teaching should not begin much before ten.

At about puberty drawing ceases to be merely the registration of ideas, and shows signs of becoming

pure art. Now emotion, tone and mood appear, to carry the truly artistic child to new powers. But the majority, at this stage, lapse into a purely schematic way of work. Therefore, after the age of fourteen, probably instruction in drawing should not be given, except to the specially gifted.

After ten, all systematic work should be in the hands of a special teacher.

In the later stage, for the majority, emphasis should be placed upon appreciation rather than upon production. Very few adults will use artistic drawing, and the time required to gain proficiency may be spent to better advantage in other and more practical directions.

In the choice of materials for drawing, we have still much to learn. It is a logical inference from the phylogenetic relationship of the child that much could be found in primitive drawing and art that would stimulate and help mould the child's artistic sense. This, however, is as yet largely an unexplored field, for no sufficient tests have been made. The purpose of it would be, in any case, to arouse native interests, to stimulate imagination, and to provide content and feeling, rather than merely to educate eye and hand, as most of the hitherto accepted methods have done, in trying to appeal directly to the child's appreciation of form which is at first rudimentary. Another field, suggested by the recapitulatory principle, is to be found in symbolism. Much of the drawing of the race has had, as its chief impulse, the representation, symbolically, of objects, events, or feelings; and when

this attitude can be aroused in the child, a great advantage is gained, for then meaning is involved at every step. Such an interest places content in the lead, as it should, and brings into play large areas of mental activity, and perhaps stirs inherited reactions; and yet it focuses everything upon definite action, which is again a correct procedure. The child is thus made to feel something of union or sympathy with his object before he begins to draw, and so he draws with more zest and expression.

If feeling and inner activity of thought should be the foundation of all artistic work, from the beginning, surely in the later stages when beauty is the dominant motive, still more must emotion be the root of everything. We have, in this country, fallen away from a day of greater appreciation of the beautiful, when there was much interest in making everything that was useful also ornamental—when household utensils, fireplaces and furniture were ornamental as well as durable. Art is connected at every point with practical life, and is not merely for the few who can learn to express themselves in artistic form. Only by fully understanding this can we estimate the place it must have in education. Every individual is limited to a narrow sphere. He craves a broader life, a freer and wider range of emotions. These cravings impel him onward toward a higher plane of energy, in which he finds a union of the real and the ideal, of sense and faith; in which he escapes from personality and civilisation, and becomes united with the life of the whole race. Art, most broadly conceived, is the regulator of

all these emotions. It satisfies and directs them, and keeps them within bounds. So art is always a product of passion and inspiration, and it must be taught in that spirit; for without exalted emotion there can be no truly artistic enthusiasm nor education. Art, too, is not merely the language of sensuous beauty. It is full of meaning at every point. It must be made, even more than any other subject, to teach youth about nature and man. So the need, all along the line, is for an emotional awakening, for a cultivation of sentiment. Appreciation, rather than expression, must be the basis of art education in the schools. This appreciation must be secured by familiarity with the works of art that present every great and noble passion. Thus taught, art may become one of the most powerful aids in the development of the child, especially in the period of transition from childhood to adolescence. But to make art thus serve the child, it must come into contact with real life at every point. The sense of the beautiful must be infused into common life. It must be made to connect with all industry and raise it to a higher level, for industry must always remain crude and cheap until it gratifies in some way the love of beauty.

One of the most practical means of education of the artistic senses is the picture. Much more attention should be given to this than is at present done, for, by the picture, feeling and interest may be stirred deeply. There should be many kinds of pictures, and the test is not so much their acceptability to the adult artist as to the child. There should be bright wall

pictures, especially for younger children, many of them perhaps crude from the artistic standpoint. The pictures should be full of occupation and action and thus bring into the schoolroom something of the stirring life outside. Art as such, we must remember, has little interest at first for the child, for he has but little appreciation of technique and form. His interest is primarily in content, in meaning, and human interest and feeling. Pictures should therefore, first of all, aim to minister to these natural interests, and not try, out of season, to force upon the child a love of the classical in beauty. Almost all the work of the school may, in one way or another, be vivified by pictures, while, at the same time, the sense of form and beauty is being gradually cultivated. There should be pictures, illustrating all the classical subjects. Science, especially geography, fairly cries out for better pictorial treatment. There is a great field, too, for the stereopticon, and the motion picture, which in the future may be made to do incalculable good for education. In all this, there should not be too zealous desire to separate off that which is purely beautiful from meaning, story, or content. Art that reaches pure sensuous form is a late development in the race, and should be in the child's interest, if we are to make art development natural, and keep it in contact with real life. We can gradually bring artistic appreciation out of the interest in content, by following the order of the child's natural interests, and thus do the best service, both for those who will execute and for those who will merely appreciate.

It is only the very few who will profit by close training in technique, and we must take care that all the study of art be not dictated and dominated by the needs of these few, rather than of the many.

REFERENCES.—137, E. P.

## CHAPTER XXIII

### PHILOSOPHY IN THE COLLEGE

IN the philosophy of the college, there is a possibility of great culture for youth, and also danger of grave evils, both intellectual and moral. Philosophy may knit up the mind, and strengthen it for a life of strong interests and mental progress; it may deepen knowledge of life, and capacity for religion; and it may balance and harmonise all the activities, practical and cultural. On the other hand, it may narrow the intellectual horizon; dull zest for work; make all the future interests in facts and concrete realities less keen; lead to a premature intellectual finality; and breed in the mind a spirit of pessimism, indifference, and criticism.

The narrow and critical philosophy is all too frequently found in college work; and in many instances it is a harm to youth which no future training can entirely eradicate. The evils of philosophy are seen at the worst in the conventional course in epistemology which leads a long devious descent through Locke, Berkeley, Hume, and Kant; and lays bare all the errors, limitations, and contradictions of the reason of man. It leaves the youth with an universal doubt, without a real world. It teaches to disrespect the

teachings of the physical sciences and strips away all conventions, opinions, beliefs, and childhood creeds of the youth, in order to initiate him into the higher art of thought. Out of this dilemma the philosophy of the college, it is true, tries to lead, through a constructive philosophy of one kind or another, but the whole process is unnatural and too complicated. It centres the interest too strongly upon the mind of the individual, and makes the world seem narrow and pinched. It is too minutely logical and fine-spun, and it leads to a hopeless slavery to a method of thought, and the habit of getting all knowledge out of the mind, and of testing the truth of everything by formal principles. Such a philosophy shuts the youth off forever from the joys of true discovery and enquiry, for he feels that whatever truths he may come upon are already in his mind, and if he but apply his method he can find them. All this is an unnatural complicating of what nature has made plain; it is too meagre in facts; it is precocious, and like the wisdom of old age. This will not do for youths. We must inspire in them a philosophy suited to their age, and to the needs of a long future. Argument and criticism are excellent disciplines at a certain stage, but to carry these too far, especially into the most vital regions, where a wholesome and simple faith is vastly more needed than learning, is a great error, and misunderstands the most fundamental principles of the nature of youth.

Now, instead of centring the interests of the young student upon abstract definitions of life, attention



should be given to the problems that are found where life is most intense and reality is most real. The plain sense of right and wrong, and the simple belief in the reality of the worlds of matter and mind had better not be disturbed at all, if agnosticism and scepticism must result, even temporarily. Certainly those who understand the nature and needs of youth at all must see that philosophy ought to lead to optimism, to faith and affirmation, rather than to doubt. It is the positive rather than the negative aspect of it which must be emphasised. Progress must be measured by capacity to believe rather than by capacity to doubt. At the end of his course the student must be left with an eager curiosity to know the world better, and he must not feel that he already has mastered its inmost principles. Philosophy must end as a guide to right living, as well as in skill in logical disputation.

There are two kinds of philosophy admirably fitted to the needs of academic youth. Philosophy should, in the first place, be a summing up and unifying of all the great principles of the sciences. All the work in science in the lower grades should lead toward this philosophy. The student must be made to see that all are leading to the same end, in the service of man, and he must understand that the universe is one, is purposeful and filled with law and order. The vastness, depth, and breadth of its meanings must be strongly impressed upon him.

The second philosophic need is for some kind of a transcendentalism. Now is the time to impress upon the mind the truths of the higher spiritualism. Duties

must appear as divine commands, and the relations of the individual to the universe of spirit must be felt. This is simply an effective form of appeal to that larger portion of life which is instinctive and emotional, and which exists before the intellect has fully come into its power. It makes for a higher type of virtue and faith. In the German idealism is a philosophy than which nothing is more stimulating to youth, if it be properly taught. A course in idealism as taught by Kant, Plato, Hegel, and the rest stimulates the development of mental powers and gives inner resources against all corroding pessimism, teaches how to solve the practical problems of life, gives zest and breadth and insight in any intellectual career — and, in a word, it is unsurpassed or unequalled by any other element of education in inspiring youth with ideals. It especially illuminates religious sentiments, gives poise against the inroads of doubt and scepticism, provides weapons with which to meet them, and it is a philosophy which should be the main-stay of all who would speak and be heard on the subject of religion.

All the other philosophical disciplines: logic, ethics, and psychology, need to be put upon a better basis. The subject of logic needs to be re-examined, with reference to its usefulness in the training of the mind, and in order to bring into it new fields to broaden its scope. We already have materials for a new logic, far better to educate powers of thought, than was the old formal logic that has played such a great part in the philosophical courses of the college. This

new logic should begin with a study of the history of the subject, and should include the story of the development of some parts of philosophy, such as the categories. The history of inductive logic should be traced, including the history of graphic and statistical methods, and the doctrine of probabilities; something about standards, constants, symbols, substitutions, analogy, continuity; how to observe, test, simplify, vary; about hypothesis, classification, averages and means, fallacies, and nomenclature. But all this should be made concrete, never teaching method without illustration with subject-matter and use. The main purpose of it all is to enlarge the powers of the mind in all departments of work, inductive and deductive. Other methods than mere instruction in logic must, therefore, be a part of its teaching. Some one subject may be taught, with especial attention to its methods; and training in laboratory methods and in seminary may be made to illustrate the questions of methodology, while at the same time it teaches the use of methods as applied to special problems. Thus taught, logic is not merely a formal discipline, and at most a training for the work of abstract philosophy, but is connected with all other subjects and is a preparation for any vocation; for it would teach not only how to reason, but how to look and describe, to gather facts, estimate probabilities, and many other practical matters of every-day life.

Ethics is the second great branch of American philosophy. More ethical teaching is done here than anywhere else in the world, and we have more text-books

of our own construction than in any other department. Like logic, ethics has been too closely united to abstract philosophy; and although it has been of service in opening to young men a transcendental cult, and so connecting well with religion, yet it has all been too abstract, too deductive, and therefore too narrow in content. It has not been connected closely enough with live human nature. Ethics should begin with physical hygiene, and should teach the relations between health and morality. It should inculcate love of nature and love of art, for morals' sake. It should plant in the mind of youth the germs of enthusiasm for many reforms, and above all else it should inspire ideals. We do not need to base our moral life upon tradition, nor upon philosophy, but upon human nature. Therefore ethics that begins with a study of human nature, and ends with a betterment of it, is the kind to teach, especially in a country like ours, where ideals need to be practical.

The teaching of psychology in the college is unsatisfactory also, because it is not yet conceived in a broad enough sense. It has in the past busied itself too much with the senses and with problems of time and space, when it ought to attack the questions of feeling and animal life, and follow out the applications to sociology, to art, and to education. There is too much of the old classification methods of study, which remind one of the methods of biology before Darwin. There is too much strain after first principles, after interpretations along lines of fruitless and narrow theories; too much interest in the exceptional facts

of hypnotism, telepathy and the like, and too little attempt at broad co-ordinations of methods and interests; too little of mutual sympathy among schools, too much interest in quarrels over unsolvable problems. And psychology has not yet passed the stage in which it is beset with pseudo-scientists, mystics, theosophists, and all the others of like character who have not yet seen what psychology as a science is concerned about.

A complete study of the present knowledge of psychology, and an all-round training for attacking its problems, must include the following departments. This might be called an ideal department of psychology for the university.

There must be, first, a good background of history of philosophy, of science, medicine, literature, and religion. Next comes a knowledge of general biology: all its main standpoints and theories, the problems of heredity, all the Darwinian problems; and there should be some training in laboratory methods, in the use of the microscope and the like. Then should come the study of the habits and instincts of animals, and for all this there is need of equipment with the facilities of zoology. Physiological psychology must have some background in general physiology, beginning with the subjects of digestion and nutrition. Then there must be the experimental methods, common to some parts of physiology and psychology. Then must come a study of the psychological side of anthropology. In this department there is already accumulated a vast knowledge, including studies of language, myths, literatures and customs. Some attention should be

given to the physical problems of anthropology, such as study of types of senses, and to the subject of mental and physical measurements. Criminology presents another, more special subject, closely related to normal psychology. Then there is neurology, the study of nervous diseases, and psychiatry, the study of mental diseases, related to many problems of medicine, law, and ethics. Finally, child study, the broadest of all the methods of psychology, requiring for interpretation of its facts a knowledge of all other departments.

REFERENCES.— 64, 82, 104, 131, 141, 196, 220, 268.

## CHAPTER XXIV

### THE KINDERGARTEN

WE can preface a study of the school grades by the assertion that the younger the pupil the more earnestly must his needs be studied; the more undeveloped he is, and therefore the more generalised and all-embracing the culture we must impart to him, the more we need to know of the philosophy of life—and, failing to possess such a philosophy, the more we must bring to bear the best instincts and intuitions.

The kindergarten ideal, as it was conceived by Froebel, is worthy of the greatest admiration and devotion, but as applied by most of his followers, especially in America, where the kindergarten has been carried much further than in Germany, it has in some ways been perverted, and over-conventionalised, and has failed to absorb the spirit of the progress in education. It has tended to become set apart from all other educational institutions, and has perfected a highly metaphysical and symbolic doctrine of its own, and a worship of the letter of Froebel, not in keeping with our American ideals of independent thought and progress. What is most needed is a campaign to free Froebel from his followers.

As held by Froebel, the kindergarten idea was based

upon nine great and true principles. He maintained that the child repeats the history of the race; that the feelings and instincts are the germ of both intellect and will; that self-activity, spontaneity, and play are creative; that the higher monistic Christian pantheism which he represents is the true philosophy of education; that children are originally sound, and congenitally sinless; that they should be allowed at each stage what that stage calls for; that harmony and love are the rule; that we must live for our children, and that there is nothing else worth living for; that health and out-door life, close to nature and earth, are the child's great needs. His ~~great fault, the principle~~ from which his followers have derived much wrong practice, is that he believed the simplest thing or act too great to be expressed. He was a symbolist, and expressed in the gifts and occupations the extreme views of the inner significance of the infant's every thought and feeling, quite disproven now by all we know of the child's nature. It was the spirit of his system that was great and true; it was the practical application that was weak and inadequate. It all needs, therefore, a new interpretation in the light of new principles, and especially correction on the side of its methods of instruction. Though the philosophy of Froebel is the best and most inspiring for teachers and mothers, the whole system needs sadly the light of modern educational theories, and needs to be brought into more definite relations, both theoretically and practically, with the rest of the system.

Now it is precisely this fault of the kindergarten



philosophy in over-emphasising the needs of the child as a supposed possessor of the higher sentiments and thoughts, and the lack of emphasis upon the child as a physical body, crude in organisation, having much in common with animal and savage, that is the secret of its unnaturalness; and it is just at this point that it most needs reform. The kindergarten has usually offered unhygienic physical environment to the child. There has been too little of out-door life, too much mental stimulus. The kindergartens have often been established in the most unhygienic parts of the school building, having defective light and ventilation. The important element of care of the body should be provided for first of all, and the kindergarten needs to assume more of the qualities of a good nursery; and, both for her own sake, and for the child's, the teacher should stand as completely as possible in the mother's place. She should know something about the illnesses of children, and about many matters of hygiene. Improvement here would mean a change of ideal, from emphasis upon the work of rapidly unfolding the mental nature of the child, to that of delayed maturity, which is the ideal of the biological education. The child needs more mother and less teacher, and especially less metaphysician, during all the first years of his development. One of the first needs is for more bodily movement, in the old standard games, and less of the symbolic plays and restrained movements of close work. So far as possible, strain on hand and eye, and tension of cramped positions must be done away with. The kindergarten should keep the

child during more hours of the day, and in order to do this safely to health, it must construct an ideal environment. There must be ample opportunity for rest, and even sleep and feeding, if necessary; and with this should go training in manners, and in all hygienic and cleanly habits. There must be all possible contact with nature. All the standard stories, myths and animal tales should be told and acted. There should be fairy-tales and stories of savage life. Music is indispensable, and should be made prominent. There must be old ballads, songs of nature, of God, home, country, all aimed to educate the simple feelings in a natural way. Songs with action are important. There must be an abundance of pictures and objects. There must be dancing, marching, many scores of plays and games. In place of two or three kinds of fish or insects kept in cases, several scores of plants and animals are needed, for every possible contact with real life must be maintained.

Here the largest demand upon the intelligence and sympathy of the teacher arises. The teacher must know about nature. She must know the lore of birds, flowers, trees, and animals; and she must know how to take the child to nature, and bring nature's influence to bear upon the child. The nature study in the kindergarten must be broad and deep, and upon this all the indoor work of the school should be based. The child will be responsive to every feeling the teacher herself may have for nature. Sky, stars, thunder, water, moon, and clouds will all excite wonder and deep reactions in the mind of the child. The teacher

should understand that this is the most important interest she can inspire, that it is all-conditioning, and that everything else vital in education depends upon it. The kindergarten teacher should be trained broadly in the kind of nature study that brings the child into close touch, in feeling and thought, with nature as a whole, rather than in the indoor study of plant and animal forms.

In close connection with such nature study there should be more play out-of-doors in the elements; snow, wood, stones, all the rougher and larger things should be freely used to bring out the fundamental feelings of the child, and to train the basal muscle co-ordinations. These plays should later be more directed and take the form of imitations of all the great human activities: of battles, funerals, weddings, religious ceremonies, perhaps even of crimes, trials, and punishments.

The methods that centre about the gifts and plays must be greatly broadened; for it is just at this point that devotion to an abstract theory and an unnatural symbolism block the whole work of education through varied expression, which is the true method. The gifts and occupations have been greatly over-emphasised, and just because the belief in them is based upon metaphysics, they are peculiarly tenacious and but little modifiable by ordinary reflection and common sense. The truth of the matter is that there are hundreds of things quite as suitable for the child as the conventional gifts and occupations of the kindergarten; and to shut the child up to the meagre list

of the system is to be in danger of doing the reverse of what Froebel himself intended should be accomplished by the kindergarten. The whole toy world should be opened to the child, and the interest in toys should grow out of an interest in nature. The child's love goes out to animals first, then to plants and finally to inanimate things; an order which the gifts of the kindergarten quite reverse. Especially dolls should be used in abundance, for their educative value is far greater than that of any other inanimate thing. There should be plenty of opportunity for free play with these toys, and there must be practice in coarse movements of scribbling and free drawing, but no systematic or close work of any kind. The nature of the young child opposes all system, and it has no organs with which to appreciate it. Anything in which meaning exists for the teacher solely, and not for the child, is wrong. All such work is wasted effort. It struggles to inculcate what will later come of itself; and which, until the time is ripe cannot be forced upon the child. All the interests in straight line, sphere and cube, all mathematical conceptions whatever, are utterly foreign to the child's nature.

In the kindergarten much more weight should be put upon imitation. The teacher's spirit and personality are all important. Her expression, her voice, its cadences and inflections, are all greatly educative to the child. The kindergarten ought to do more for the speech of the child. This is the nascent period of idiomatic speech. In most kindergartens, as at present conducted, the children do not talk enough. Every-

thing that is seen or done should be reflected in language, and speech must be linked to activity at every possible point. There is good opportunity, during these early years of school, for training the ear to the sound of foreign languages.

The kindergarten must employ freely all those instinctive methods of teaching that are common to home and school. Telling, showing, explaining, directing the attention, telling stories, with plenty of the play spirit: these are the methods of introducing the child to the world in which he lives. And by being natural, the kindergarten will do a great service, connecting home and school in a way that can be understood and appreciated by all.

REFERENCES.— 129, 136, 204, E. P.

## CHAPTER XXV

### THE SCHOOL GRADES

ALL the grades of the school need to be infused with the spirit now best represented by the best kindergarten ideals. The primary school should connect with the kindergarten and continue the methods of play, out-door interests, and the like there begun. The most important change over current methods that is needed is a postponement, for two or three years, of reading and writing, and all the change this would imply in the curriculum. In this way time would be left free for the development of the nascent stages, by methods employing more content and less drill and repetition than are required by methods that depend upon reading and writing. And later, when writing and reading are seriously begun, they can be taught with far less expenditure of energy and time, than when they are begun too early. It would be ideal if these formal methods could be delayed until the age of ten. Nature, life, and live language should, in the primary years, have free access to the mind of the child. There should be a beginning of history, of foreign language by tongue and ear, industries, plays, stories. Let the whole effort be upon feeding the mind and bringing out the racial in it, and let

the formal drill be pushed ahead out of the way of the growing imagination and perceptions. Music should not be by note, but should be all rote during these years, stimulating to the primary feeling, following the child's own preferences in time, tune, and theme.

At perhaps nine, at the earliest, begins a new period. Now the reading and writing drills may be introduced, and much formal training. Yet this may be too exclusively centred upon. The method of live, personal contact with teacher and with fellow-pupils must prevail and dominate. There is too much reading and writing in the work of the school. The child should live in a world of speech. He should hear and talk for hours each day, and thus he will lay the foundation for good command of his native tongue. He should write as he speaks, and should not be hampered by close analysis of language. There must be drill in the forms, but it should be without too much explanation and dissection. First, utterance even if thereby made homely, ungrammatical, and crude, must be freed and made vigorous and adequate. Children must not write upon any subject unless there is interest and natural feeling. Under guidance of the feelings language will develop without forcing.

Now is the time for drill upon all fundamentals and conventional intellectual contents which the community demands the child shall possess. Literal memory may be drawn upon to almost any extent, and it should be used, putting a minimum of strain upon reason. If these years are used wisely the child will emerge from this training with a prodigious amount

of acquisition made once for all. Arithmetic, spelling, foreign languages, all things requiring motor technique may now be emphasised. The moral life is in precisely the same need as the intellectual. It is a time of drill and habituation, and not of creative impulse. There must be coercion, if necessary to create habit, and the child needs severe training in the right directions. Not so much sentiment and sympathy as obedience and order are required of the child in these years. Both boys and girls need some instruction from male teachers. As man's authority is needed in the home, so it is in the school.

Arithmetic, with its emphasis upon reason, is a type of study which is much overdone in the American graded schools. In order to facilitate acquisition it should be mechanised to a greater degree. There should be rules and processes, with plenty of exercises in mental work, and with but relatively little analysis and explanation.

The child's remarkable powers of acquisition justify also emphasis at this time upon all such studies as languages, if they are taught in accordance with the needs of the age. Always the stress should be upon ease of acquisition. There should be oral methods and many helps over hard places. Everything must be provided that will facilitate the main purpose, the definite acquisition and fixing of whatever we wish the child to retain permanently. This is the peculiar work of the school during the grammar grade years. Even foreign languages, if they are to be taught at all, may be introduced then, and carried far enough to



fix in mind all the rudiments of grammar and an extensive vocabulary.

If the school has done its work well, the result of this cramming process will be shown in an enormous store of the necessary conventional knowledge fixed once for all, without undue strain or forcing. All the necessary parts of arithmetic should be well fixed, and the child should be competent both in written and in mental methods. He should know about geography, especially his own immediate environment, and what is necessary of the geography of the rest of the earth, including something about social and political organisations. He should have committed to memory a great many of the standard selections of his literature. His vocabulary should contain eight or ten thousand words, and he should have some knowledge of perhaps two foreign languages. The child should know well a few books, and should have read and looked into a considerable number, especially along lines of travel, adventure, natural history, and biography. Motor habits must be well trained, and there should be interest in, and knowledge of, several industries, manual occupations, and of many games and sports.

REFERENCES.—22, 26, 105, 168, 194, 196, 265.

## CHAPTER XXVI

### THE HIGH SCHOOL

THE function of the high school, the great faults of the present prevailing system, and the main lines upon which reconstruction must be begun, seem very plain, when the problem is looked at from the genetic point of view. The opportunity of the high school is the greatest of that of any department of the school system. The child comes to it at the time of his greatest spontaneous variation, and at the highest point of his educability: the age at which education in all times and places has done its best work: the time indeed about which training has always centred. At no other period does the child so urgently demand that he be taught with sole reference to the stage in which he is living.

Considered with reference to the needs of the child, and the opportunity before it, the high school as at present organised, fails more completely to perform its proper function than any other branch of the school. No class of teachers is so little interested in the nature of the child and the genetic stages, as the teachers of the secondary school. The logical order and division of subjects everywhere prevails and takes precedence over the psychological. The studies are

not chosen with reference to suitability to the age of the child, and they are not taught in such a way as to take advantage of the natural learning methods of the adolescent age.

The reason for this condition is plain. The high school is a connecting link in a chain leading to the college and university. In the high school the child prepares for college, and studies those subjects that are best as introductions to the subjects taught in college. The text-books are for the most part written by college teachers, and the method is highly systematic, formal, and logical. Work that should properly be done in the college is pushed back into the secondary school. There is a tendency to believe that all subjects as now taught have an equal value and consequently that all should receive equal emphasis. The great majority who do not go to college, and who have no interest in the college preparatory curriculum, are made to suffer for the sake of the few who do. The assumption that prevails that fitting for a college entrance examination, and fitting for life are equivalent has wrought havoc with the education of youth at the very time when it is most capable of profiting by the best training, and most likely to suffer from wrong training. It can more truly be said that fitting for college is unfitting for practical life, so clerical, sedentary, bookish, and arbitrary is the high school teaching. Almost nothing of the current high school courses appeals to the best powers of the youth, and those subjects that perhaps are best fitted for the time are likely to be taught in

such a way as to rob them of all their educative value. Another mistake is the assumption that a false democratic ideal makes, that all should be educated and treated alike in the secondary school — when the opposite is the truth: a true democratic education demands that the individuality of each one be brought out to the fullest extent.

The changes needed are radical, and involve not only the whole matter of curriculum and method, but the entire conception of the function of the high school. The high school must fit better for life the great majority who go no further, and be so changed as to prevent the loss of the three-fourths who now drop out of the course before the end. It must not be considered a link in the preparatory steps for college, but must act independently, aiming to serve one stage of growth, in the best possible way. Entrance examinations to college should be abandoned and all admission to the higher institutions be made by certificate. The high school should be able to dictate to the college rather than the reverse. The college should be obliged to take the product of the high school in the condition in which the high school, working according to the principles of a genetic education, must leave it; and should then, in its own way, proceed to build the next higher stage. There is some advantage in extending the high school down to perhaps the seventh grade, in order to reach the beginning of pubescence, and thus to give the older grammar pupils opportunity to associate with older children. The high school is too eager to do advanced work. It is not right for it to

strive to extend upward, and to usurp the work of the college. The college ought rather to adopt methods more like those of the high school, and to drop its affectation of university ways. In the east, especially, the influence of the college upon the high school is to encourage its isolation from real life. The first task of the high school is not so much to lead the child on into special subjects, as to review and to remedy the defects of the elementary school. The age of twelve is the best of all times for summary and review of everything that has gone before. It is the last year in which drill can be the predominant method, so that if defects in the rudiments are not now remedied, they never can be. The coeducational plan is not the best, for this is the very time of all when the sexes differ most and need greatest differentiation in teaching. There should be more male teachers, and more training definitely appealing to the nature of each sex. There are too many text-books and too narrow adherence to them, which results in a conceit of knowledge antagonistic to further growth, whether in school or out.

As soon as the ideal of the college entrance examination is abandoned, anyone can readily see, in a general way, the direction in which improvement may be made in matter and method of the curriculum. The point of view must be shifted from the classical to the natural, with a greatly increased content of study, and a much reduced attention to form. The basis of the work will be the vernacular. Language will be taught with reference, not to form, but to content: as litera-

ture, history, and science. Oratory will be taught in its highest sense as practised by the Romans — as the art of influencing human conduct by the truth sent home by the living personality. The debating club performs an important function. Its power should be utilised in much of the work at this period, when the pugnacious instincts are so active and forceful, and so much in need of being raised to the highest possible plane. This is now one of the greatest motives of the boy, and the present high school uses it to but a slight extent.

Likewise the dramatic motive — another almost neglected factor. This now surging instinct must have an important place in the remodelled high school. The drama is an incomparable school of life, and its ideals and methods are peculiarly fitted to teach youth lessons which can be impressed in no other way. So drama and dramatic reading, work in which the native impulses of the youth can all be employed, must be given a central place in the language course. The child must not merely hear, but must play a part.

Another content study that deserves a high place in the English work is the mediæval epic. The youth is now emerging into an adulthood which is most akin to that of the mediæval period, and its ideals form the best of all culture material to teach manliness, chivalry, and valour; and especially to implant the sense of honour which is the greatest of all virtues.

In the matter of literature there should be much reading, not too critical and close. The pupils should read much, without direct control, and should meet

and share their knowledge with one another. Especially girls need more rapid and cursory reading. They need to have brought to them condensed knowledge of literature, reviews of books, readings from the great novelists and dramatists. They need to know something of magazines, of the work of editors, and of the stage. A few problem plays, and a few psychological novels should be read. They need guidance, in other words, in the deluge of modern literature.

Judged from all other standpoints, except that of college entrance, most of the prevalent high school work should be relegated to a minor part in the course. Though modern languages should take precedence at least of the classical studies, they are secondary to all content studies. They are too narrow and formal and touch too lightly the fundamental impulses of the adolescent; they are too much influenced by social ideals of polite culture. Mathematics also, being formal, has a low value at this stage.

Next to the English study, as outlined above, comes the science work. Its purpose should be first of all to teach love and knowledge of nature as a whole, and its method should be religious. The sciences chosen should be those that give breadth and depth of view rather than accuracy. The great frontier of the scientific field, where the greatest scientist and the amateur are both in a sense children together, must be revealed to the mind of the youth.

The science work must always include the elements of astronomy. Geology and palæontology should have a place, and must be largely field work, and full of

dynamic and genetic ideas. Chemistry should be sifted for its genetic elements, and its many practical applications. Biology, too, in all its larger relations, should be included, and be taught with the greatest enthusiasm. In all this science work the youth must repeat the steps by which the race has come. He must not begin with the precise and the particular, but with the large and the general. The first stage is the mythic and literary; then the history and genesis of ideas; then the popular science stage, with all possible contacts with daily life brought out; next the utilitarian in a broad sense, the application of all the great problems and discoveries to the most vital and important questions of public welfare, such as life, health, reproduction and disease. Last of all, but not for the high school age, comes the stage of pure science: the methods of formula, mathematical exactness, analysis, dissection, and classification. This last, highest, and most abstract method is that which now prevails in all the scientific work of the high school, and is a result of college dominance, and concession to incompetent teaching. Teaching systematically is easy, and precision lightens the teacher's task. It covers up the teacher's ignorance and lack of resources. Drill and the methods of mind training allow group instruction, with its setting of lessons and recitations and examinations, but it is hard on the mind of youth.

It must be remembered that the boy of high school age is a young utilitarian, and that his interests centre about large aspects of use. Therefore the studies suited to his age are motor. The practical setting



may be given at its best by arousing ideals of frontier life, colonisation, and commercial conquest. Large aspects of trade and commerce must be taught, and the science work in part be grouped about these interests. It must look forward to practical life, must inspire activity, and make use of the budding aggressiveness and love of conquest in the mind of the youth. Such work, too, must be co-ordinated with athletics, and through this interest, be affiliated also with the teaching of morals and religion. At this age ideals are all in a state of flux. The enthusiasm is easily led from one field to another, and must be constantly kept alert. The whole work is incessantly to keep the mind in so stimulating and uplifting an environment that the enthusiasm shall constantly be led to higher and higher planes, preoccupying mind and heart until inner sources of control shall be developed and interest become stable and definitely directed.

The high school age is one of great susceptibility to all social influences, of capacity to be educated by personality. Especially do youth at this age exert influence upon one another. Therefore all work must be made social in every possible way, in order to use the great forces of the social motives. It should be active, and yet the mind be flooded constantly with new impressions, for the powers of absorption are even greater than those of expression. Most of all, youth needs religion and morals, and must have these influences. Indeed the whole spirit of the high school course should be that of enthusiasm for what is normal, for the age, in morals and religion.

These are the most important problems of the whole school system, for if we could solve even the most pressing of them, and establish secondary education upon a sound basis, we should have a clue to all other work of education, and could work forward and backward from this centre until the whole course of development would be ordered in accordance with true principles of genesis.

REFERENCES.— 159, 162, 170, 172, 176, 185, 196, 232, 282.

## CHAPTER XXVII

### THE COLLEGE

THE first question to ask concerning the higher education is, Who should go to college? The current practice in urging all youth to aspire to college has many dangers. There are many, both boys and girls, who ought never to go to college at all. If health be deficient, the overwork of college life, coming during the most plastic years of adolescence, may do an injury that nothing can later repair. Complete maturity may thus be prevented, and health sacrificed for that which is a very poor substitute — knowledge. This applies to girls, even more than to boys, for the injury to girls at this age is more far-reaching than to boys. Nor should one go to college unless there be more than average mental ability, and then not unless interests strongly tend toward intellectual pursuits. Business and other forms of active life should draw those who have no decided intellectual tastes. If moral convictions are not strong, and if habits are not well established in the direction of good moral living, the college is no place for a youth. There are many temptations in college life; the college cannot create character where it does not exist. No boy should go to college simply because he has the time and the money.

College education falls during a period of life when the youth, representing a stage in the progress of the race in which the intellect began to be the chief survival value, naturally and instinctively broadens out his culture at every point. The college, like the high school, should be complete in itself, following out its own ideals, serving one period of life in the best possible way. It should not be a link between the high school and university or professional school, but should stand apart, uninfluenced by the demands of later specialised work. It must invite to a leisurely development of this last stage of general culture, which should be prolonged and in a sense aimless.

In college the purpose must not be the fitting definitely for work; there must not be too much specialisation and accentuation of individualities. We must develop the domain in which we are all alike and have a common possession. The ideal should be decidedly the cultivation of extensive rather than intensive knowledge. The mind must still be stimulated at all points, its ripening delayed always, in order to allow heredity to do all its work, and to round out the individual intellectually and morally to a complete form. The college should be for all who can profit by it. There should be no entrance examinations, but all should be admitted who are of character and age to profit by the studies and associations of college life. Many types of men will be provided for, and the test of progress should not be the amount learned; for many, not by nature students, will profit most by association with men; and the learning of values in life will be the real

education they will receive. In the ideal college, numbers should not be large, for this is the age when individual perfection, the completion of each according to his capacities and limitations, is the ideal. Everything should be pervaded by a moral purpose, remembering that moral growth and progress in culture are of much more importance than acquisition of knowledge.

The work of the college, then, is to delay maturity, while the mind is stimulated and moulded by high ideals and interests in such a way that the hereditary forces have opportunity to bring the individual to complete maturity. It is the function of every professor, whatever his department, to create interests, and to inspire ideals. Proper intellectual interests serve the purpose of preoccupying mind and habits until the powers of control take charge. If the youth fail of zest and ardour on a high plane, he is certain to seek it on a low plane; so every intellectual interest must be considered as a possible psychological equivalent of an undesirable motive or habit. In this sense, everything done for college youth has moral significance.

Personality is now in the foreground. Therefore the relation of student and professor should be more than that of teacher and pupil. The function of the teacher is the induction of youth into the mysteries of life, rather than the transmission of information. To the extent that academic teaching has lapsed from this ideal have disciplinary troubles increased; for just in proportion as the main interests of the student are outside the classroom the college is failing in its

chief duty. This is the great danger to student life from excessively large numbers in a college which break up the normal relations between professor and student, and make the classroom work formal, and lacking in personal inspiration. This is the greatest evil of the college system. Great harm can be done by allowing instruction to lapse to a merely knowledge-imparting function, failing to inculcate ideals, and to keep the mind of the student open and curious in face of all great questions. Such teaching tends to make for an ideal in the past rather than in the future, for to learn what has been said and done is far easier than to live by ideals of the future, and demands an entirely different quality of enthusiasm. It is in the future that the college student naturally lives, and if the college fails to represent this spirit in its classrooms it lacks connection with the true nature of the student, and college and youth each goes its own way.

One of the most prevalent and serious evils of the college work of the present time, one containing many others, is too close specialisation in teaching. Professors are too much concerned with the subject-matter of their courses, and too little with the true function of teaching. They are led away from interest in the student by the passion for systematising, technique, precision, and scholarship within their own departments; and they try to impart to the student the same professional attitude toward their subject that they themselves have. This is wrong, for it is a time when the schoolmaster and his methods and subject-matter

are of minor importance. The work of the professor should be to go far afield and bring in the best of everything within his department, freshly studied, and enthusiastically presented. He should be full of the latest news of his science as well as its whole history, the lives of its heroes and great men, and its dramatic achievements. He must, if need be, brave the charge of superficiality and lack of system, if in order to be inspiring he must sacrifice something of precision and form. His aim must be the mental awakening of his students. He should stimulate questions and problems, and answer but few of them. The test of his success is not the amount of knowledge he leaves in the minds of his students, but the state of their interests in things worth being interested in; that is, his effect upon their sense of values in life, and their zeal in adjusting themselves to them.

When the wants of the college youth are thus understood radical changes needed in the curriculum come to the surface. Both method and subject-matter must point to the larger aspects of life. College work must centre in the moral subjects. It must, therefore, come into contact with the religious life and develop it. It must contain the right kind of philosophy. Ethics must connect with health; with problems of honour, mastery of self, and individual efficiency; with the interest in athletics. Those subjects that sweep over the greatest life surfaces: literature, the natural sciences, psychology, the philosophy of education (which involves an insight into all the values of life, and inculcates ideals of conduct in the interests of the

future), must be drawn upon. Pedagogy must be presented as the summation of all theoretical and practical sciences. It must be more broadly and more generally taught, and in such a way as to be the means of inspiring ideals of citizenship, parenthood, and social altruism — lessons that are constantly needed by all. Music, which is the greatest of all educators of the emotions, must have a high and honoured place. It is the very language of the emotions, and the widest of all culture subjects. It must be taught broadly, and to all; its history, and all its great works must be brought home to the student's interests in such a way as to elevate the present low standards that prevail.

The religious needs of the college student are great and deep. Religion must be taught. The mind must be kept positive and affirmative of something, and not made merely negative and critical. For this reason a broad study of religion should be made, from the comparative and psychological, and not merely the historical standpoints. The spirit of the Christian religion must be implanted and conveyed as the adolescent ideal, and the life of Jesus taught as the story of adolescence and representative of the ideals of the race. Athletic work must be brought up to, and made a part of, the religious and moral attitudes. All physical development and sports must be raised to a higher plane, be intellectualised and moralised, and made the centre of courses in ethics, physiology, and biology.

The social life of the student presents many prob-



lems of both theoretical and practical interest. We do not yet know how to direct it, nor how useful activities may be made to grow out of the great mass of raw material of energy which the youth expends in his free associations with his fellows. The social life is a form of exercise of many unformed interests. Imitation is strong and this is one factor of the interest in discussion and debate, in which the youth can practise the strength of his personality, and can try all styles, assume all sides of questions, and enlarge his experiences. College clubs, which are of almost every conceivable sort, show the wonderful fertility of the social consciousness at this age, and its proneness to inventiveness and differentiation of interests.

In many ways we have yet to learn how to control this social instinct. Its expression in love of debate and controversy suggests an important problem, the regulation and stimulation of societies, and utilisation of this spirit in the methods and matter of the classroom. There is much to be said in favour of the college organisations, especially the secret societies. In cultivating friendship intensively for a small group the youth learns lessons that are gained in no other way. Such social life broadens personality and teaches honour. Another problem is self-government. The fertility of the interest in organisation suggests the problem of directing the energy and interest in self-organization to self-government. Thus far self-government of student bodies has not been entirely a success. In many ways the adolescent is still in need of authority, and the college environment does not set ideal con-

ditions for freedom of conduct in every particular. Another direction in which the youth's social instincts may be made to yield great returns for education is athleticism, one of the deepest interests of the college age. For excess of restlessness and discontent, for tendencies to outbreak and revolutionary ideas, immorality and low enthusiasms there is no cure so potent as the athletic interests. By the athletic spirit loyalty to the group and to the college is aroused, authority is made more easy, morals are benefited; and to the degree that the benefits can be extended to all the student body of the college is there a general improvement in every department of work. We have yet much to learn, and we are still far behind the English schools in our athletic spirit, for there the standing of the teams of a college is likely to be a good index of the intellectual status of its student body.

A crucial point in the college, and a culmination of its training is the philosophy it teaches. The present tendency toward a reasoning mania in the college philosophy does violence to the nature of youth. The college man needs, above all else, a positive world view, not a critical one; his philosophy should never be allowed to detract from his enthusiasm for practical life, nor to interfere with his natural enquiring attitude toward the world of knowledge. The philosophy taught must be a living philosophy, and its main work is to outline each science in its place in a universe of knowledge. There should be more popularising of the great principles and most important results of each science, and every expert and specialist should

have, as a part of his duty, to present his science as a chapter of the philosophy of youth. The whole story of the intellectual development of the race must be taught. When this is presented with inspiration and true insight into its value for youth, instead of being dry and formal, it becomes a fascinating romance.

REFERENCES.— 81, 82, 144, 146, 154, 172, 196, 263.

## CHAPTER XXVIII

### THE UNIVERSITY

SCIENCE is the greatest achievement of man, and the university, the home of science, is, therefore, the centre of man's highest interest. The function of the university is to keep alive the spirit of research, to infuse this spirit into all other departments of education and of life, and to keep all open to new ideals. The university thus stands for progress and the future more than does any other institution. It is not, however, the sole possessor nor the creator of the enquiring spirit. All childhood that is not spoiled by wrong education possesses it, and it is the end of right education to enable the child to carry this spirit on with him throughout life. Research is but a developed and refined image of the wonder and curiosity of childhood. It is related to the awe and reverence of the religious attitude. It is the spirit of growth in the child: a spirit which, infused into the higher grades of school, where too often indifference creeps in, gives to the school a new life and growth. It is the spirit of individuality and of leadership. In the professor it is the soul of the artist who inspires and creates, and not of the scholar who merely knows. At adolescence it is the test of the youth's progress.

Then his part is not merely to learn, but to create; to peer into the future, and to blaze out new trails. This spirit is the intellectual accompaniment of that movement which, on the emotional side, is expressed in the higher altruism and in conversion, and which is the key-note of adolescence.

The greatest educational need of this country is a higher grade of university work and better university ideals. Our standard of scholarship, both of student and of professor, is still too low. We need a revival of science. The function of the university is to bring the student to the end of his intellectual development as a student, by taking him out to the frontier of knowledge, and directing him how to take a step into the unknown, whence he shall bring back new knowledge, and himself become an authority, and in some way an expert. Then he becomes mentally free and individual. Thus far our schools have been much more successful in disseminating the knowledge we already possess than in cultivating the spirit of research and in maintaining that attitude without which any system of education must degenerate, unless it is stimulated and refreshed from without.

There must be at the top of every growing educational system an university, founded upon the spirit of research. Here the method must be specialisation, and not merely scholarship. Self-activity of effort must now take the place of learning on the part of the student. He must not merely repeat nor confirm what others have done, but he must, in a new way, expressing his own individuality, bring all his

previous knowledge to bear upon a single point at which he can create new values in knowledge. General culture and learning are a necessary preparation for this result, but no amount of general learning will fulfil the ideal of specialisation nor truly satisfy the spirit of research. Indeed receptive learning, if carried too far, will antagonise and kill this finest product of right education, and it is one of the chief criticisms justly made upon our colleges that they do precisely this thing. They overeducate by methods of passive learning, and do not prepare for the work of specialisation by keeping alive the spirit of enquiry.

The university is for the few, and in every department of the school the best talent must constantly be kept making headway toward it. We must not think that such effort, and lives devoted to these ideals, are unpractical. Even the purest love of science for its own sake is not unpractical. Often the most theoretical problem yields in the end the most practical results. And out of the spirit and the achievements of the university, in times past, have grown all the higher results that have created standards and furnished the most practical rules in all our higher professions, and in many other ways have made for progress in all departments of life.

If the university is for the few, these few must have the greatest possible freedom. There should be free migration of students from one university to another, in order that young men may obtain precisely that guidance most fitted to each individual. Every possible assistance must be offered, and every

obstacle removed from the path of complete maturing of mental ability. Each university should hope to carry but one or a very few departments to the highest efficiency. In the university every student should expect to help educate all his fellows, and to stimulate and keep alive interest in something for which he alone is responsible. When he enters into the university life the youth is no longer merely a learner. He is a sharer in the higher life of the intellectually competent.

In the university the lecture method, which has in many places been overdone, must be supplemented by more co-operative methods of learning. The laboratory — in which students and professors work together, and where each student has individual attention — and the seminary, are the most natural situations for the ripening of the growing mind. The methods must be social to foster the highest specialisation. The crowning step of all is the completion of work and its publication, the giving to the world, in a permanent form, of something new to it, and valuable as a stone in the great edifice of learning. If this has been led to by the most pedagogic steps; if the subject upon which the man has specialised was suited to him; if he has been able, not merely to accumulate facts, and put them together in a new way, but to create new thought; if his personality has entered into his problem in such a way that he has grown while he worked; if he has been able to combine industry with ability to speculate and go out in imagination and insight into new fields, and to see a bright vision of future work

ahead — then man and work have been happily combined to produce that best of all achievements of an educational system — a true scholar.

REFERENCES.— 54, 83, 84, 85, 86, 152, 154, 171, 246, 261, 263, 268, 274.



## CHAPTER XXIX

### THE TRAINING OF TEACHERS

ONE of the most pressing of educational problems in America is that of the training of teachers. No department is so much in need of reform as the normal school. Throughout the lower grades, especially, teachers are not properly equipped for their work, either as regards knowledge of the subject-matter they teach or knowledge of the child. There is a lack of deep conviction on the part of teachers; they are too easily influenced by each new idea; they lack a philosophy of education, and want leadership to help them appreciate their dignity and rights. System and organisation tend to make matters worse, for always the tendency of a system is toward deterioration. Experience of other countries and of our own shows that improvement never comes from within the system itself; for it always becomes formal and routine unless inspiration is infused into it from without. Therefore all ideals of educational reform must arise at the fountain head of the educational system; that is, in the university. Always it must be new thought arising in the higher institution and working downward into the public school that must transform education. To mould education, therefore, it is necessary always

to take a far look ahead; to train educational leaders and produce educators who are open to influence by the best that is being done everywhere, and who can pass the new thought down the grades to the practical teacher. Nothing depends so absolutely upon the university as the lower grades of the public school.

The training of the teacher, therefore, begins with the education of the university specialist. The first work is to broaden the outlook of all leaders of educational work. There is no science large enough to include all the problems and view-points of education, and one of the most unfortunate conditions arises when any leader or system becomes wedded to any single philosophy, or becomes too single-minded for any one point of view. Pedagogy must hold itself open to influence from all sources whence anything can come that can be applied to the education of the young. The educator must roam far and wide, seeking his materials everywhere. And this must be the spirit in which the teacher must be trained for his work, and which must be passed on to the worker in every grade. Only in this way can progress continue to be made.

One of the most prevalent faults, at the present time, in the training of teachers, is too much devotion to system. The philosophy of education upon which it is based is likely to be narrow, deductive, and formal. Such systems naturally pass on to the teacher formal and barren methods and the teacher imparts these same vices to the child's mind. These philosophies train the mind to dissect large wholes of knowledge,

and make for over-precision, premature accuracy, verbal definition, logic chopping, formal steps, analyses and over-explanation. It is at its worst a pedantry which leads to a show of knowledge on the part of both teacher and pupil; which tends to shield ignorance, and to cover up lack of content by excess of form, and is detrimental to growth of mind.

There is a possibility, even, of too much professional training of a kind. What a teacher needs is not a system of pedagogy, but a deep love of knowledge, and a strong and quick feeling for childhood. If there must be a choice between an excess of formal training in pedagogy, and an entire lack of professional knowledge, the latter is better. It is easy for the teacher to magnify the rules, and thus to make everything she teaches unnatural and formal, to make knowledge intricate and to puzzle the child by artificial divisions of knowledge and conscious steps in imparting it. Better than all this is a few simple and easily taught rules, and a few dozen inspiring lessons on the history of education, and as many on the nature of childhood.

Instead of formal philosophy, therefore, the centre of teacher-training should be the study of psychology conceived in its broadest aspect as the science of human nature, and especially as a study and interpretation of childhood. This is as necessary for the training of the teacher as acquaintance with iron and wood is for the engineer. Nothing can take the place of this point of view. The philosophies are obsolete, and abstract. The new experimental knowledge about

the mind is too technical and too remote from teaching. No text-book is adequate. Even the genetic books are too much devoted to doctrine, and fail to get before the teacher the vast store of new knowledge. The new genetic psychology inspires breadth of view in the teacher, teaches respect for childhood and the workings of nature. The younger the child the less help the teacher can get from any of the old philosophies and the more from the new. Even the best of the old psychology fails in dealing with the young child, for it turns the mind of the teacher away from the child to the adult; it teaches irrelevant issues and gives presuppositions and ideals out of harmony with nature.

Psychology for the teacher should be to a very little extent analytic or systematic, and it should not deal much with the fundamental principles of the science nor the connection between psychology and other sciences. It should be practical and genetic.

The work should begin with physiology and hygiene; studying such problems as air, light, heat, posture, nutrition, abnormalities, and defects. The practical problems of the kindergarten should be studied, with some reference to nursing and other physiological subjects. There should be something about heredity; about tests of eye, ear, and motor ability; about muscles and their training and disorders.

There should be much about play and the natural stages and nascent periods of all interests. There must be something about imitation, imagination, and a little about reason. The feelings, beginning with the fun-

damental pleasures and pains, and passing to the study of fear, love, anger, pity, sympathy, and other emotions, must have a prominent place.

The teacher needs much special knowledge about reading and number work, for if she does not know the mechanism of these processes, her work will be blind. The psychology of learning a language, the physiology and hygiene of writing, methods of drawing, processes involved in learning geography, the psychology of teaching history, of examinations and marking, must all be touched upon.

The laws of mental fatigue introduce another chapter. There must be something about attention and distraction, memory, habit, association. All these problems of mental development should be entered upon concretely, with much about individuals and the practical issues. The purpose should be to enlarge and develop the paternal and teaching instinct that is normally strong in every youth. Much should be taught by hints and suggestions, depending upon the native interest to absorb and assimilate what is so natural to all if it be properly presented.

In part growing out of the psychological attitudes of child study, but in part related to other interests, practical and theoretical, is another group of problems about which the teacher must be informed, if she is to take an intelligent part in the work of teaching. These include questions of school organisation, control, legal aspects of the school, and discipline. Much of this work can be made more than merely formal and informational, if its points of contact with broader

views of education and the problems of society are kept in view.

Next to psychology the most vital part of the professional training of the teacher is the history of education, which more than anything else can convey high ideals and inculcate the professional spirit. The story of the great teachers must be brought home to the young novice, and the teaching vocation be made to appear in its true light as akin to, or part of, the parental. The teacher must be led to see that love for the young is the deepest human instinct, one in which every normal person must share.

Most of those in training to be teachers need much more education in the fundamentals they are to teach, for the most common defect of the teacher is lack of knowledge. The teacher's knowledge must be rich and varied, rather than systematically arranged and tabulated; and must be such as to appeal to the child's stage of mental growth. The ideal is specialisation both among normal schools and in the minds of teachers. Fewer subjects should be taught by one individual, and these more thoroughly known than is now common. Richness of mental content is all-important, and the dangers from too little knowledge are many. Mental dryness leads to formal methods, to analysis and over-systematising and consciousness of process, which always should be in the background, and should follow rather than precede acquisition of the art of teaching.

All the work of the normal school should be made to centre in the model school. This, from its very

nature, is the opposite of a practice school, for every teacher in it must be an expert and more or less of a specialist. All teachers should give courses in the regular work of training students and should also have leisure for special instruction. In the model school the young student must see, put into practice, the best ideas upon education, expertly carried out; and the apprenticeship of the young teacher should gradually be begun under the guidance of the expert. Then the student should go to the public schools to serve a further apprenticeship under older teachers, and if possible have some experience in work among defectives or in hospitals. These normal schools should confine themselves to the training of teachers for the grades, and should not undertake pedagogical training for high school work, which should be the function of the college department of pedagogy.

The normal school needs more objective and illustrative methods than are at present accessible to the student. There should be in each a museum where are kept maps, pedagogical devices of all kinds, charts, books, models, pictures in abundance, and lantern slides. This department should be extended, if possible, to be of service to teachers outside the school. Pictures, lantern materials, and other aids to teaching could be circulated and be of great assistance to teachers.

In addition to the subjects now provided for in the training of teachers there should be special work in such topics as story-telling, which should be made one of the most important tests of ability to teach;

and in preparation for which teachers should be required to do much reading. Dancing and dramatic representation should be taught, and there should be a course in plays and games. More and broader teaching of music is needed, each teacher being required to sing, to play upon at least one instrument, to know something about the history of music, and much more than is usual about the best music for children.

The college department of pedagogy and education has a broad field to occupy, for in a sense this subject cannot be regarded as a specialty at all, but as a summation of all the practical and theoretical wisdom of all the sciences, in touch with every other department, and drawing something from each. Rightly conceived and conducted, there is no other department in college that contains so many educational possibilities for all.

The college pedagogical course should include, first, a history of education in the widest possible sense of the word, comprising the story of all departments from kindergarten to university and treating of all branches of the school system. It must study the theories and practices of all races in all times; religious and secular institutions must be investigated — in fact all that has ever consciously been done for the child must be taken into account.

Next in importance to the history of the subject comes the study of childhood and youth, not as systematic psychology, or as a branch of philosophy, but taught concretely with attention upon those topics which are most practically valuable. The student



should know most about such topics as growth, development of motor functions, health, play, morality, religion — each studied with reference to teaching in the secondary school.

Third, comes the study of the educational values of all school topics, methods, organisation of work, problems of specialisation, co-education, the psychology of the teacher. In connection with the teaching of English, the child's whole process of linguistic development must be studied, the relations of foreign and modern languages and the vernacular in the curriculum, the values of each, and all the wider educational problems that are involved.

In the same way all other topics of the curriculum must be studied: physics, algebra, zoology, the commercial subjects — each worked out in the broadest way, with reference to the growth and functions of both body and mind, and to other educational questions.

In spite of the evident breadth of the field of pedagogy in the college, there are many temptations to narrowness and omission of the more important work for the sake of including that which is less educational. The professor of pedagogy is too likely to have, as a part of his duties, to gather students for the college, and to supervise more or less, and to keep in touch with, the secondary schools which feed his institution. Instead of spending time and energies upon these formal topics, his interests should more properly go to the cultural side of his subject. He should be in touch at all times with education in all grades, should know about all systems of education,

and be freshly informed about all live topics. He must also carry on investigations for himself, if he is to have the right outlook as a teacher.

Especially in the woman's college, where pedagogy is now in a state of neglect, there should be much more done in a broader way. Work in education should there be for all students, whether intending to teach or not. For not only is education a topic of social importance, but in many of its aspects it is but a more general study of the parental functions. Interest should be stimulated all along this line. Conception of the place of the young in the economy of society must be widened, and the dignity of the office of the care and training of children be impressed upon all.

Thus conceived, it can be seen that education does not lack cultural material, and the reasons are plain why it should have a central place in college work, especially in the woman's college. It is related to all other topics, and in a sense it is a summarising and focussing of all other subjects upon the single theme which is of the most immediate importance to any generation, and by an understanding of which the moral and intellectual standing of individuals as well as nations must be judged.

REFERENCES.—49, 83, 103, 177, 207.

PART IV  
SPECIAL PROBLEMS



## CHAPTER XXX

### RELIGIOUS INSTITUTIONS

It seems inevitable that religion must be less and less taught as such by the secular school, and therefore this all-essential part of the education of youth must fall more and more upon the religious institutions themselves. To meet the problems successfully these institutions must be willing to do as the secular school has already begun to do, study and interpret their culture material, not in its own interest, but in the interest of the child; and they must adapt it to his nature and stages of development. There is need of a broadened conception of the function of religion, a wider sympathy with other religions than our own, and willingness to learn of them in respect to methods, and even to use their culture material, if it be found to supplement ours. We must remember that our religion and our own Bible were created by a foreign race, in many respects different from ours in temperament; and that we have not the traditions growing out of the childhood of our race that some nations have. We have no great epic nor mythology to give background and depth to our religious conceptions. The practical conclusion from such facts is that the culture material of our

religion needs adaptation to our own needs, especially to the needs of the child.

Beginning with the Sunday School, there are already many suggested reforms that have grown out of the new applications of psychology to the study of the nature of the child. The Sunday School must be willing to learn from the child, and must follow and not try to force and lead interest, in this respect placing itself quite on the level with the secular school. Usually the Sunday School teacher is too eager to impart to the child the adult's conceptions of religion, feeling that the truth has but one form for all. This is far from true, and in almost no other field is it so necessary for the child to learn what is suited to his stature. Several principles, suggesting changes in the Sunday School, can be laid down. These are:

1. The Old Testament should predominate over the New for boys and girls before the age of adolescence.
2. The New Testament is chiefly for the stage of adolescence.
3. In teaching about Jesus his humanity should first be taught, with reticence concerning his deity and concerning all the supernatural elements in the Gospel.
4. Stories should predominate in the work of teaching, especially in work with young children.
5. Select tales and other matter having moral bearing, coming from other sources than from the Bible, should be used.
6. Nature should have some place as a means of developing religious sentiments.

7. The purely intellectual instruction should centre, first, about the Old Testament and then during the first years of adolescence about the New Testament.

8. The miraculous should have a prominent place.

9. The complete and ideal Sunday School should make provision for mature and cultivated young men and women.

An excellent clue to the whole principle of Sunday School work is to be found in the fact that the Bible symbolises life. It is the story of the creation and development of man, through many stages, to maturity and old age; and in general the order in which the story is told is the order in which it should be taught. The one most important method of training is the story. But it must also be known that this story of the Christian religion, great as it is, is not the complete fulfilment of the religious needs of the child. The mind of the child is greater than the story of any religion. First of all, there must be a solid background of nature love and worship. This important stage in the development of the religious life must not be entirely lost. There is nothing that so stimulates awe, reverence, and the feeling of dependence as nature love. This is a spontaneous sentiment of every natural heart. Every object of nature has somewhere been worshipped: forest, clouds, thunder, and mountains played a great part in shaping the early religion of the Hebrews; and by the same means the instincts of the growing child may best be trained toward responsiveness to the influences of religion. The child who has not felt the power of nature will be likely

to build his religion upon the sand, for it will lack the primeval instincts out of which religion has been created.

For the same reasons much culture material that is not contained in the Bible should be freely used in the earlier stages of religious teaching. Many moral lessons, especially, not found in our own Bible, but taught in those religions that represent more nearly the childhood of man, should be included. Much, too, of the old heroic literature may be found useful. Lives of the Saints, tales from Homer, tales of the Edda, some of Plato's myths, and many other stories, are directly religious in their influence, and supplement the teachings of the Bible at important points.

The child's mind is objective. He loves the strong and dramatic, and whatever excites the imagination. He wants action, not feeling, nor sentiment. Therefore the old Bible stories; stories of Goliath, Abraham, Moses, Saul, David, Joshua, Balaam, Elijah, Elisha, and Jacob appeal wonderfully to the young, and at a certain stage are educative far more than any other material of our religion. The child himself moves in just such a world, full of excitement, of interests in persons, in punishment and external authority. He needs just such a God as these strong stories of the Old Testament teach; a stern, just God, capable of anger and punishment. So suited is all this to the child at a certain age that he needs almost no other form of religious instruction, if this be properly presented to him—the narrative strongly felt



and vividly told, the personality of the teacher, and especially moral explanation and exhortation left for the most part in the background. Myth and miracle may be left to do their work upon the fancy and sentiment of the child with no fear that the impression will lack depth. Especially, to present in the early years of childhood the themes of conversion and all the later sentiments of love as found in the New Testament, is certainly wrong. It is precocious, turns the mind toward introspection, and worst of all, prevents the deeper interest in these themes when they are approached later under the impulse of feeling.

The error involved is precisely that of the Froebelians in the secular school; and the attempts to introduce their methods in the form of kindergartens in the Sunday School makes this all the more clear. Zeal for the higher truths of religion makes the teacher too eager to have the little child understand what is abstract and quite beyond his years. The same spirit prevents, too, a much needed change of attitude toward his work on the part of the teacher. The secular school has awakened to the need of a broader content in its teaching. The Sunday School needs it quite as much, and it is here that the interest in imparting the abstract truths of religion does most harm. The teacher relies upon fervor, instead of intellectual preparation for his work, and the result is mental starvation on the part of the child. The teacher's mind is not laden with the kind of materials the child most wants and most needs. Instead of feeding the mind there is much forcing of memory, teaching of cate-

chisms with its phraseology of abstract truth which cannot stimulate the mind, inculcation of dogmas, which belong only to the adult stages of religion. There is too much study of printed matter, and too little oral narrative; too much pointing of the moral of everything; too little suggestion. The teaching is too complex, with too much emphasis upon God's love, and too little upon God's acts. There is too much of learning of the details of archæology, history, philology; too many notes, lessons helps, and even oftentimes too many pictures, which to a certain extent may hamper the child's far more adequate imagination.

When adolescence comes, the greatest work of the Sunday School is to help to cultivate the emotions that are then born, and to lead them to religious expression. The youth must, in a word, be led to an interest in that which is most worthy to be loved; and religion is the only complete method of accomplishing this change. Now is the time to teach the life of Jesus which before need have been emphasised only in the themes of Christmas and Easter. There is no career in all history so great in effect upon the adolescent as that of Jesus. First, the human aspect of it should be taught, and especially the more abstract and theological questions of the Trinity and the like must not now be introduced. It is not time to examine, but to absorb and imitate. Jesus must be given a fixed place in the affections of the youth first of all; and turning the interest toward the philosophical questions of his nature certainly prevents

this, as does the rationalising of any emotion by interfering with its natural expression and force.

In the higher grades of religious teaching, especially in the theological school, there is need of a broader study of the human mind, and less, relatively, of theology. Psychology has now the most promise as an introduction to the philosophy of religion, and the study of religion from the standpoint of the nature and needs of the growing human mind opens up a deeper interpretation of everything religious than any other method; in fact, it puts religion beyond the reach of purely historical and logical criticism and establishes positive truths which cannot be refuted. Were there more study of human nature in the religious institutions and less of abstract, speculative, and dogmatic treatment of the problems of divinity, better teachers and preachers would be produced, and religion would be experienced and taught in a way better adapted to the needs of youth. These schools tend to close questions in the minds of students, rather than to stimulate enquiry; and they establish early attitudes toward all religious questions, which make an end of progress and growth. They teach those parts of religion that are special and individual and open to objection and controversy, and fail to inculcate those religious truths that are universal and incontrovertible. Theological students need to be taught a broader sympathy with all religions to enable them to rescue and bring into their own religion the elements from others which would strengthen it. This can be done only by teaching the great ethnic religions comparatively, with a

knowledge of the psychology of racial development. There is need of stronger and simpler preaching from the pulpit along the lines of the old faith. The new scientific attacks upon religion have made it argumentative and apologetic and have put it on the defensive. We need stronger preaching of sin, and the old doctrines which are every one justified by the new psychological conceptions of religious needs and truths.

Among religious institutions such organisations as the Young Men's Christian Association fill an important place, if they are true to their opportunities. They stand between the purely religious and the purely secular institution. Their danger is that they will forget their religious function, and undertake too broad a work, by entering into too many civic and educational activities, and losing sight of religion. Broad intellectual centres of growth they need to be, but the intellectual activities must be in the service of their religious mission. They should stand for ideals, and their function is to aid youth in passing through the periods of stress in adolescence. They must extend their influence into all the fields of practical religion, must teach morality, patriotism, sentiments of honour, sexual hygiene and morality. They must protect youth, and maintain the highest ideals, as a defence against the influences of a materialistic and industrial age.

Another important problem of religious education, which must be considered from the standpoint of the religious institution, is the function of Sunday. Sun-

day has not only a religious function to perform, but the weekly rest is grounded upon deep physiological needs. To meet these it must be freed from a narrow conception which in the past has hedged the day about with restraints, and prevented it from being in the best sense a day of rest. On Sunday men should be whole men, and rest from the special activities of the week. Therefore the Sunday must open opportunity for breadth of culture. Rest must be not idleness from activity, but change and recreation, for in the healthy body and mind activity is more restorative than is mere rest. On Sunday one must be able to look forward, backward, and around in a larger way than during the working days; to come face to face with great elemental questions of life, duty, family, society; to forget cares, and to come into touch with all the uplifting factors of environment. Libraries, reading rooms, parks, museums, art galleries and all such places of recreation and instruction should be freely opened; and all innocent forms of recreation, amusement, and exercise should be permitted. Churches cannot be filled by making the Sunday life out-of-doors uncomfortable and restrained, but on the other hand a wholesome Sunday will aid the work of the churches.

The church does not, as a rule, extend its influences far enough into the week. There is need of closer union on the part of denominations to provide religious and moral instruction and environment during all the week. They should lay aside their differences in doctrine, and try to regain some of their old function of

leadership of youth in good living. The doors of the churches should be open to more week-day uses, in the interest of a secular religion, which shall foster every good motive, and utilise all good-will and right sentiments. Especially may this non-doctrinal religion be at one in preaching a religion of physical health and physical conscience. It may promote interest in athletics, and in out-door life, not only for their own sakes, but for their effect upon all higher functions of intellect and feeling. This is one of the most promising fields of religious influence, for in it is the possibility of increasing zest for all good things. But no mere secular interest is sufficient. It all needs the spirit of religious ideals, for in the life of youth there is nothing that can take their place.

REFERENCES.—100, 140, 165, 168, 196, 199, 215, 216, 227, 256, 267, 270.

## CHAPTER XXXI

### THE EDUCATION OF GIRLS

THE education of girls is one of the most profound, and as yet one of the most perplexing and unsolved problems of education, and of civilisation. We understand the girl far less than we do the boy, and yet her needs are greater, and more depends upon her right education. The problem rests for the most part upon biological considerations. The test is the effect upon heredity, and more immediately the result upon the health of the individual. The purpose of education, whether of boy or girl, is to bring each individual, according to his kind, to the fullest possible maturity, and to develop in each those ideals by which the interests of the future generation will best be served. Judged by these tests a very prevalent ideal of woman's education is certainly radically wrong. This asserts, as a fundamental principle, the equal rights of the sexes to education. It favours co-education of boys and girls by the same methods and in the same curriculum. In this spirit the woman's college has been made in the image of the man's, and the girl has been influenced to accept, as the highest ideal, that of intellectual culture, mastery of a special field of learning, self-support, and independence.

The biological view of education emphatically asserts that this is wrong. The deepest instinct of woman is to transmit life, and the completion of this function by the training best suited to perfect it, and to establish it as an ideal, is the only way perfect individual health can be secured. Health for the individual and normal service to the race are fruits growing upon the same stem. Those who claim equal rights for girls and boys to all the methods and subjects of the curriculum fail to see that the nature of the boy and of the girl is fundamentally different. It is a question whether boy and girl should ever have precisely the same education, but the problem is of less importance before puberty than after. But from puberty on there are great differences in every trait in the two sexes, differences that have increased from savagery to civilisation, and to establish which there is every indication that nature is striving. These differences are mental as well as physical. Woman is more generic than man; that is, she tends less to specialisation of activity, and presumably should not be encouraged to attempt specialisation, which is the natural end and aim of a boy's education. The woman is more intuitive, less discursive, and has a richer emotional life. She is more religious, less conservative and less radical. The functions of reproduction are a greater part of life in the female, and more of the mental and the physical characteristics centre about it. In school, girls are more easily imposed upon than are boys, they are more easily led to spurious interests which antagonise normal instinct and health, and thus their attitudes do not so



clearly guide the teacher. As regards methods of learning the girl is far more docile in subjects that starve the mind for lack of content, and which over-emphasise form, than is the boy. She is more susceptible to many kinds of influence which interfere with the perfect growth and performance of organic functions, and is more easily started on the road to degeneration. The very fact that the female is charged more than the male with the task of preserving what has been gained and established in the race indicates her difference of attitude toward the new and the variable.

All this shows that the ideal of education that demands the same culture for the sexes is wrong. The biological view clearly teaches that the two sexes must be complementary, each to the other; that each must round out a life suited to its own purposes; and that, naturally, the methods of education for boys and girls will be very different. For either sex over-emphasis upon purely mental development may do harm, but it is peculiarly vicious in the girl's education. Such an ideal leaves the emotions and instincts untrained, neglects physical culture, and with its systems of marks and examinations unduly excites the spirit of competition. The method that thus hastens mental development along a few special lines, and which interferes with normal development of the deeper parts of the nature, is the cause of much of the ill-health from which girls in high school and college so often suffer. Excessive intellectualism inculcates wrong ideals about life, and leads the girl away from the simple plain life

of home, and the ideals of motherhood and wifeness, without which she is certain to be neither morally nor physically a complete woman.

It appears certain that from now on the right of woman to the highest education will be conceded all along the line. The work must be to see that it be high in the truest sense. If woman is to have the highest education possible for her, it certainly will not be precisely like a man's, even when she takes the same subjects and specialises upon the same themes. This higher education need not be lacking in intellectual elements, but purely intellectual culture can never be an adequate ideal for the woman. We hear far too much of the ideal of independent support. This is the principle openly professed by many who advocate education for girls in the higher branches. They maintain that a girl must be fitted for life like a man, and then if motherhood or wifeness come, she can still find a use for her culture; and will be able, on account of her college education, to take a place in the community higher than she otherwise would. The very opposite is the better way. The girl must be trained for wifeness and motherhood first of all, and then, if it so happen that she become independent and self-supporting, there are many callings in which her culture will find expression and be socially valuable. The biological idea demands that the education of the boy and the girl, instead of being precisely alike in content and method, should often and in many particulars be diametrically different. The two should not be encouraged to imitate and grow to be like one another,

but all natural traits in each must be brought out, so that, both in society and in all domestic relations, one shall supplement the other. Such considerations from biology must weigh against all matters of economy in conducting schools alike for the two sexes. The interests of the sexes are so different, and the methods to be employed so divergent, that to hamper either sex by binding it down to the ways of thought and action of the other is very uneconomic. The girl, if brought too strongly into competition with the boy, is sure to be injured both in health and in ideals, and the boy is equally hampered in his growth.

After the age of twelve, co-education begins to be questionable, and seems to violate a custom, based upon a human instinct, and so universal that it must have some significance for us—that is, of segregation of the sexes at puberty. Our violation of this has come about accidentally. When the need arose for higher education for girls, the only schools to which they could be sent were the boys' schools. In the home the two sexes naturally segregate. Brothers have their boy companions and sisters play with girls. They play different games. Their tastes are different. The boy of twelve is a utilitarian; he craves responsibility and initiative. The girl is more docile. Both are harmed by being taught together. The school ignores these differences, though they pervade every mental function; attention, memory, habits of study are all different in the two sexes. Already at the high school age the girl of the same age begins to show greater maturity than the boy. She is superior in understanding;

the boy excels in everything motor, and he therefore requires more active methods in his education. The boy represses the girl; in his presence her sentimentality fails to get free expression. The girl represses the boy; and he cannot act out his crude budding instincts. Different methods are needed in teaching boys and girls the same subject. In botany, for example, the boy does better at work with the microscope, and the girl is interested in plant lore, and in the popular aspects of the science.

As adolescence progresses there should arise between the sexes a subtle tension and restraint. Prolonged familiarity wears down this tension, which is normally a powerful influence, both for moral and for intellectual growth. To the boy at this time the girl should seem somewhat apart and ideal. There must not be love before its time, and the sexual passions must be diverted in every way by physical activity and intellectual interest until maturity is completely established. Girls, too, need the same segregation. The constant society of boys is too stimulating. They need the calmer influences of their own sex. It is natural to the girl thus to withdraw from the other sex. She instinctively shuns too complex and exciting an environment, responding to a need of a more plastic emotional life, which makes it harder for her to ignore harmful influences and select what is needed for her best development. Girls, educated with boys, are very likely to acquire boys' ideals of life and to lament their sex and its limitations. Too often the woman teacher encourages this and herself imparts such ideals to girls.

She tries to be less romantic, less emotional, becomes more thoughtful and more regular. This is wrong, for it is girl's nature to be sentimental and romantic, and whatever represses these normal moods is harmful; as harmful as the refining influence which the school, taught by women and largely devoted to girls' ideals, is for the boy. True virility at this age will not take a high polish, and effeminate influences are bad for the boy.

The remedies for the existing state of affairs are these. There must be a freer elective system in the high schools. Spontaneous interests must be allowed expression. The nature of the child must lead and education must follow and watch for indications. High schools for girls must be multiplied, and methods of teaching must be worked out more fully. Already there are many indications of girls' needs in such subjects as botany, biology, and chemistry. There should perhaps be also differentiation among girls' schools, providing for those who are determined to be prepared for self-support, a different curriculum and method from that given those who would be trained for domestic life. The ideal of competition between the sexes must be totally abandoned. There is no rivalry between the sexes, for their purposes in life are too different to allow it; and to believe there is, will work great hardships and create great evils, not only to education, but to social ideals as well.

The question of the ideal of the woman's college, what its purpose should be, and the effect of co-educational life upon fulfilment of this purpose, are most

important themes of the higher education. The biological view alone sees clearly what the true purpose of the woman's college should be. Its function is to develop complete women, and the method by which this is accomplished is the training for domestic life in the home; for wifehood, motherhood, and in a large sense, for teaching and philanthropy. The current ideal of the woman's college is a violation of the biological. In the woman's college that is dominated by the ideal of self-support and independence, there is much bookishness, hard grinding study, specialisation, a too broad and heterogeneous and exciting social life — all these violating fundamental traits of the feminine mind. The results are likely to be overtaxed strength, and over-development of intellect at the expense of physical and mental health. There is too little of training of the intuitions in a natural environment, too much complication of the feelings by reflection and examination of reasons. It is not necessary that the biological ideal thwart the highest development of the intellect, nor prevent specialisation in any department for the few for whom such a life is fitting; but to encourage all to strive to reach these heights is the wrong principle in the colleges for women. The ideals of wifehood and motherhood should be held up first and most strongly, and those of scholarship be made secondary. That which is eternally feminine must be kept in the foreground. Discipline and sympathy must be put before aggressiveness and the spirit of reform and self-support. Good manners, correct, well-informed taste, the feminine side of everything, even

of science, must be emphasised. Culture must be humanistic. Study must not be too analytic and minute. The spirit must not be competitive, and examinations have but a small place. There must be leisurely study, and slow progress, rather than haste and crowding of many interests. In all subjects broad sympathies must be the aim rather than criticism. Therefore much logical philosophy and epistemology are not best for women. A philosophy in which human nature is the centre is better. The work in English should be study of literature sympathetically, in its relations to life, and not a study of words and forms, as is so often the method. In science, too, there must be general interest and knowledge, rather than exact methodology and drill. The genetic, the practical, and the personal sides of science, rather than the abstract, are needed, and the aim should not be high scholarship as such.

Many of the errors of the new ideals of woman's higher education are involved in, or are the outcome of, the co-educational methods. There are many reasons why segregation of girls during the college age is the better way. The college girl is much nearer maturity, mentally and physically, than is her male fellow-student. Too much association with men of her own age weakens her respect for the masculine nature, and helps to turn the mind toward the single career. She fails to see that the men will continue to develop after her growth is completed; and she readily thinks her own present superiority in judgment, her greater earnestness and stability of character, her better insight into human nature, her keener perceptions, and better

memory and associative power, indicate permanent differences between the sexes. This is far from being the case, for in the later years of his development, the boy will greatly change for the better, if he develops normally. These differences in the nature and needs of the sexes are so many and so great that nothing less than radically different courses and methods will sufficiently recognise them. The need of difference in training increases, rather than the reverse, during the college years. Girls require more work with text-books and more recitation. Boys are better at research. Girls thrive upon the mass-training plan, but boys famish if thus treated. Boys wish more of the practical and experimental.

Of course, in the matter of college education, girls differ greatly as individuals in their needs. Many should not go to college at all, and the mistake of urging college education for a girl who is not fitted to receive it is even worse in its effects than in the case of the boy. Colleges for women differ greatly and fill the needs in different degrees and ways for different types of temperament and ability. Both the girl and the college should be studied carefully before a decision is made. Colleges differ much in their moral restraints, in their social life, and in intellectual opportunities. The co-educational college differs from the woman's college. Much depends upon securing the right environment. The girl goes to college at an age when she is most susceptible to influences that make for development of character and mind, and if these influences are the best, she will grow by leaps and



bounds. The curriculum itself is but one of the educative factors. The quality of the college atmosphere, the ideals of the professors, and the character of the institution as a whole are of great importance.

Not even in the university and the professional school can there be entire eradication of sex differences. The feminine mind is more concrete than the man's and for the most part the woman takes little interest in the purely abstract subject. This is true of the theoretical aspects of such subjects as æsthetics and ethics. In some of the experimental fields women have shown great ability, especially in psychology and in other subjects that closely touch life. In studies of animals, plants, and primitive life she excels. As a laboratory assistant she is often ideal: resourceful, accurate, patient, and sometimes independent. As a compiler of literature, in a field in which she is interested, she is peerless. She readily masters the methods of the library, and in all work of studying authorities and the making of bibliographies, she excels.

The ideal school for girls is one of the most important problems for the future of education, for in many ways the future of the race depends upon the woman more than upon the man. Health and the feeling life are most important, and far more difficult to train than the intellect. Therefore environment in the widest sense is of the greatest moment. The problem is first of all to construct an ideal environment for physical health and the training of the emotional life. Schools for

girls should be in the country, where the profound influences of nature can best be commanded. Out-of-door life should be encouraged, and there should be plenty of provision for sports, and everything that fosters nature love, and healthy out-of-door life. In dancing there is a great resource for health training and education of the emotions. In the past the dance, in its natural forms as folk and national dance, has been a school both of religious and moral feeling. It is related to the drama, to song, to speech. It makes the best of all systems of physical culture for the girl.

Manners, using the term in a broad sense, must be given an important place in the girl's school. Not only is the desire to be pleasing a natural aim of the girl, but this is the centre of many higher developments and refinements of feeling and action. The best ideals of ladyhood should be held up, the refinement which is the essence of educated womanhood must be developed, and manners must be taught, even the details of etiquette and custom.

Religion must have a place in all women's education, for it is the motive that effects the transformation from the selfish to the altruistic life, without which even health cannot be complete. In this the order of the racial development must be heeded, for it is futile to try to teach religion in any other way. Refined ideals must not be inculcated too early. First comes the Old Testament, illustrating virtue, duty, devotion, and self-sacrifice; later, the New Testament, the ideal life of Jesus. In teaching girls, the æsthetic elements of its religion, its forms, and all the factors which can

appeal to the sense of the beautiful, must be made much of.

Emphasis must always be upon those subjects and methods that train the intuitions and feelings. Those subjects that relate to conduct, and connect with that which in a given stage of growth is, from the girl's point of view, vital and practical are to be brought to the front. Nature study must be made an entrance to much that is intellectual, and be made to widen sympathies and deepen emotions. Nature study for the girl ought to be less of the laboratory and more of the field, than in the case of the boy. Formal study of physics, chemistry, and mathematics, has but a small place in the ideal education. Geology, biology, and astronomy must be taught, especially in their historical and personal aspects, always the larger principles first and most emphasised. Botany is the best of all sciences for women, and if it be properly presented, can be made truly educative of both mind and heart. Plant-lore and all poetic aspects of the subject need emphasis. Its history, the story of its great men and events must be told. Field work is to be the dominant method and take precedence over all work with text, microscope, and analysis. The great themes of life must be brought out vividly, and all practical implications be emphasised. The moral effect and application ought always to be kept in mind. Zoology, in like manner, should follow the needs of the physical and moral nature of girls. It must treat of live things in their relations to human life, rather than of the dead specimen. It should begin with that which is near

at hand; with domestic animals, their care and use; and all the practical aspects must be brought out. Next in science comes the study of the life of man, beginning with what is primitive in the race, and with the young of the human species. This ought not to be presented in a systematic manner, but must follow along lines of greatest interest. Upon this basis history may follow, with prominence given to moral aspects, to the vivid and dramatic, to lives of individuals. Dates, politics and wars need to be kept in the background. In sociology the larger theories and problems and the great movements in human life need to be brought forward, rather than minute and exact and statistical studies. Stories of great reforms; problems of society, home, church, state, and school; and philanthropical movements and ideals are to be the main interests.

The main purpose of the teaching of all art should be to cultivate appreciation, and the powers of perception, and there should be but little training of expression in art forms unless there is genuine talent. In literature myth, poetry, and drama should lead, and emphasis be put upon expression in the native tongue. Greek, and perhaps Latin, should be entirely excluded, for in these subjects a little knowledge comes at the cost of too much unnatural toil, and at too great a sacrifice of time and energy which could be more profitably spent. Modern languages should be taught by conversational methods, and by teachers native to the languages.

Of ordinary philosophy there need be but little. Of

the philosophical subjects psychology is the main centre and interest. This should be taught genetically and the love of childhood and youth, rather than the love of science, be made the motive. The sentiments and instincts must be studied more than the technical problems of perception and intellect. Ethical studies grow out of these points of view and must treat of everyday problems of the moral life and be but little theoretical.

Domestic science should be taught in every girl's school. The work should be practical, and the theme be the ideal home, which the laboratory should represent so far as possible. It should contain all the appointments of the house; there should be training in nursery, kitchen, and dining-room, in the care of the house, and in all the details of household economy and æsthetics.

The course in pedagogy is to be based upon the ideals of motherhood, and will include the history of teaching and a course in child-study, both theoretical and practical. The care of the child should be taught in detail, with as much practical work as possible. Properly taught this training in pedagogy may be said to be the centre of the education of the girl, for everything else may be grouped about it and taught with reference to it. Its aim is moral: the development of the girl through natural steps to feminine perfection. This, better than anything else, expresses the ideal of woman's education, and places it in sharpest contrast to the other ideal, so often held, which puts intellect before feeling, and which aims to make women special-

ists in their interests and abilities — which is precisely what nature has at every step tried to combat. The two main callings of the woman, closely related to one another — teaching and motherhood — should provide the impetus for most of her higher culture. About these everything else may revolve, and all intellectual achievement may be acquired. Women have true genius as teachers, and every girl should have such an educational environment that this natural interest and instinct may be utilised, both for her moral training, and for her higher mental culture.

We may say, in conclusion, that the need of woman's education, to-day, is based upon simple biological and common-sense principles. The homely German saying that the interests of women centre in kitchen, clothes, children, and church is not far wrong, when it is rightly understood. Indeed the world to-day is calling woman back to these basic interests. In woman's education everything that does not somehow pertain to these things is of little worth. All that does not in the end contribute to a better knowledge of home, children and religion is wrong, for the future of the race depends upon continued progress along these very lines.

From almost the beginning of school the education of women should proceed with these principles central and cardinal. School should keep in touch at every point with actual life, rather than have, as its ideal, preparation for life at some future time. The girl must first of all know and do practical things, and the

science of these things must be later and secondary. The realisation of something like this, we may say, is the chief need of the world to-day.

REFERENCES.— 190, 197, 205, 211, 235, 240, 243, 271, 277, 292.

## CHAPTER XXXII

### RACIAL PEDAGOGY

THE parallelism, drawn in recent years between the individual and the race, which has yielded such rich fruit in the practical sciences of man, is now beginning to draw attention to the almost wholly neglected problems of the treatment of dependent races by the dominant nations. About one-third of the human race is now controlled by a few powers, and on the whole it can be said that the treatment of these subjected peoples is carried on without adequate knowledge, either of their place in the world, or of the best means of developing them, according to the laws of growth. Many stocks are actually becoming extinct because of wrong government and education, and some of the rarest literatures and the most interesting peoples have been lost to the world. We are too likely to look upon all savages as degenerate or arrested stocks, whereas the truth is that many are certainly new races in the making. They are the children and youths among nations; destined, it may be, to take the place of the now dominant races when their powers shall have been exhausted. The problem of the care of these peoples is world-wide. In our own land two different phases



of it are pressing: the education of the negro and of the Indian.

The mistake that has been made is precisely that which has been world-wide in the training of children. We have tried to educate according to the standards of the adult or civilised mind, without the least reference to the nature and needs of the object of our attention. We have assumed that the purpose of our control of uncivilised man is to civilise him, and to impose upon him standards derived from our own institutions and customs. This is a colossal assumption, and it is wrong. The whole spirit of the missionary movement, which has been cast in the same erroneous belief, has been unpedagogic in the extreme. We have tried to suppress everything native in the savage, and to substitute our adult forms of religion and civic life for his. We succeed thereby in adding a superficial culture to uncivilised man, and it is easy for us to believe we have changed his nature. But we are mistaken, and such a policy is short-sighted and narrow. We educate for a day, whereas nature takes thousands of years to secure lasting results. We educate the savage without reference to his stage of development, committing precisely the error we make when we enforce precocity upon an individual, and with the same result. Degeneration sets in, the race does not reach its full development and normal adulthood. Every vigorous savage race is a child, and should be treated according to the same principles of education as those we apply to the undeveloped individual. This is so plain that it cannot be mistaken by

anyone who thinks about it at all. It is time that statesmanship and religion both gave heed to the teachings of science and undertook their work as a problem of pedagogy. These problems cannot be solved by legislation alone. They are questions of science. And science regards all treatment of lower races as problems of race hygiene; as questions of mental and physical education.

The first principle of racial pedagogy is this: Each race must be educated and governed according to the stage of culture and development to which it belongs, and not according to what civilised man desires it to accomplish in the immediate future. It is absurd to treat all alike, to try to Christianise all, and bring them to the level of civilised social life; just as much as it would be to teach children of all ages in the same classroom, and by the same methods. The interest of civilised man, above all, must be ignored. Everything indigenous should be preserved, if it be not abnormal, and never should a higher step be forced, without building directly upon a lower one. We are learning slowly that religions are not to be judged by an absolute standard of values; but relatively, according to their fitness for the stage of mental development of the people who hold them. Our religion, the highest of all, is oftentimes the most unfit of all to teach to lower races, and can only make them precocious and abnormal. Instead of destroying native religions, languages and customs, we should develop them, rejecting nothing that is not unhygienic or grossly immoral. Native industries should be encouraged and improved, and

higher stages or methods of thought and practical life be led to but not forced. The aim must always be to make the native the best possible representative of his own kind; and to change him into a weak imitation of something American or European is to do him a poor service. We must not think of the present generation as an end in itself, but as the forerunner of many thousands of years of the future, to prepare for which the present must live out in the best possible way its own normal course. The most precious thing in the world is health, whether in the individual or in a race. Vigorous native stock, developing normally and naturally, is a priceless possession of the world; and if these young and growing races are crushed out, or injured by forcing and wrong education, the world will suffer irreparable harm.

Two different problems of race culture at home demand our attention, and the application of these principles: the problem of the negro and of the Indian. The greatest mistakes have been made in trying to cope with the negro question, in not understanding the nature of the negro, who is so different from the white man, both in body and mind, that the two races should not be treated alike in any particular. The negro has a tropical temperament. He is imaginative, improvident, keenly sensitive to nature, superstitious, excitable, uncontrolled in passion. He is physiologically different from the white, suffers from different diseases, and the same diseases run different courses in the two races. He can no more be made a white man in habits and in nature than his colour can be

changed. He must therefore be made the best possible black man, and not an imitation of a white man. For to attempt the latter is to force a stage of life upon him for which he is not yet ready, and will only cause him to degenerate from diseases and bad habits, and become abnormal. He must be trained according to his own nature. His life is normally an out-of-door life, and industries on the land are his best opportunity. His whole training must centre in industry rather than in mental development disconnected from motor expression. He must be put into the proper environment, and then left so far as possible to work out his own life, using his own temperament and instincts as guides, for there is nothing the white man can substitute that will do so well. Given the proper conditions, the negro will make progress naturally toward a higher stage of civilisation, but he cannot be hurried by imitating the white man's nature.

The same applies in principle, with change of details, to the treatment of the Indian. We have tried to force upon the Indian a culture that is unnatural to him. We have destroyed his own wonderful literature, religion, and industries, in order to give him our culture, and have succeeded in nearly exterminating him altogether. We have tried to make him feel disgust for his own primitive modes of life, and to scorn all his beliefs. All his basketry, pottery, bead work, flint chipping, making of moccasins, weaving, bow and arrow making, skin dressing, making of canoes are going the way of the lost arts, because of the white man's

totally mistaken notion of race culture, and his pride of civilisation.

The treatment of the Indian's religion has been peculiarly unpedagogic. The Indian is by nature an ancestor worshipper, and a nature worshipper. He prays to the ghosts of his forebears, to the soul of plants and animals, and to the sun and moon. To uproot all this, and teach him our Sunday School religion is futile. He is not in a stage of development to bear it. It is all superficial and unnatural. We must not cut him off from his past, for the past is a far greater civilising force in him than we can ever introduce from without. To make him forget his own modes of life, forsake his parents and their religion, and learn our language from the beginning, and thus to deprive him of all the educative values of the myth and story of his own language, is as wrong as anything can be in education. All the old should be developed rather than suppressed. All his native thought, industries, and amusements should be taught him rather than taken away from him. The educational work must be to evolve the higher from the lower gradually and by natural steps. Likewise the religious teaching must retain the old. If we do not proceed in this way we shall soon exterminate the Indian altogether, a calamity for which there can be little excuse, for the teaching of science is perfectly clear, at least as to what should not be done.

All uncivilised peoples, according to these principles of racial development and culture, are to be regarded

as in a stage of childhood or youth, as possible rulers of the earth in the distant future, when our own civilisations shall have grown old. Like children, all cannot be brought to full normal maturity, for there are the diseased and degenerate among the lower races as among individuals. The problem is how to bring each to the highest point of development of which it is capable, treating it in the interests of its own possible future, and not sacrificing it to the present demands of the dominant races.

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