CHAPTER 1

Education as Natural Development

“We know nothing of childhood, and with our mistaken notions of it the further we go in education the more we go astray. The wisest writers devote themselves to what a man ought to know without asking what a child is capable of learning.” These sentences are typical of the “Emile” of Rousseau. He insists that existing education is bad because parents and teachers are always thinking of the accomplishments of adults, and that all reform depends upon centering attention upon the powers and weaknesses of children. Rousseau said, as well as did, many foolish things. But his insistence that education be based upon the native capacities of those to be taught and upon the need of studying children in order to discover what these native powers are, sounded the keynote of all modern efforts for educational progress. It meant that education is not something to be forced upon children and youth from without, but is the growth of capacities with which human beings are endowed at birth. From this conception flow the various considerations which educational reformers since his day have most emphasized.

It calls attention, in the first place, to a fact which professional educators are always forgetting: What is learned in school is at the best only a small part of education, a relatively superficial part; and yet what is learned in school makes artificial distinctions in society and marks persons off from one another. Consequently we exaggerate school learning compared with what is gained in the ordinary course of living. We are, however, to correct this exaggeration, not by despising school learning, but by looking into that extensive and more efficient training given by the ordinary course of events for light upon the best ways of teaching within school walls. The first years of learning proceed rapidly and securely before children go to school, because that learning is so closely related with the motives that are furnished by their own powers and the needs that are dictated by their own conditions. Rousseau was almost the first to see that learning is a matter of necessity; it is a part of the process of self-preservation and of growth. If we want, then, to find out how education takes place most successfully, let us go to the experiences of children where learning is a necessity, and not to the practices of the schools where it is largely an adornment, a superfluity and even an unwelcome imposition.

But schools are always proceeding in a direction opposed to this principle. They take the accumulated learning of adults, material that is quite unrelated to the exigencies of growth, and try to force it upon children, instead of finding out what these children need as they go along. “A man must indeed know many things which seem useless to a child. Must the child learn, can he learn, all that the man must know? Try to teach a child what is of use to him as a child, and you will find that it takes all his time. Why urge him to the studies of an age he may never reach, to the neglect of those studies which meet his present needs? But, you ask, will it not be too late to learn what he ought to know when the time comes to use it? I cannot tell. But this I know; it is impossible to teach it sooner, for our real teachers are experience and emotion, and adult man will never learn what befits him except under his own conditions. A child knows he must become a man; all the ideas he may have as to man’s estate are so many opportunities for his instruction, but he should remain in complete ignorance of those ideas that are beyond his grasp. My whole book
is one continued argument in support of this fundamental principle of education.”

Probably the greatest and commonest mistake that we all make is to forget that learning is a necessary incident of dealing with real situations. We even go so far as to assume that the mind is naturally averse to learning—which is like assuming that the digestive organs are averse to food and have either to be coaxed or bullied into having anything to do with it. Existing methods of instruction give plenty of evidence in support of a belief that minds are opposed to learning—to their own exercise. We fail to see that such aversion is in reality a condemnation of our methods; a sign that we are presenting material for which the mind in its existing state of growth has no need, or else presenting it in such ways as to cover up the real need. Let us go further. We say only an adult can really learn the things needed by the adult. Surely the adult is much more likely to learn the things befitting him when his hunger for learning has been kept alive continuously than after a premature diet of adult nutriment has deadened desire to know. We are of little faith and slow to believe. We are continually uneasy about the things we adults know, and are afraid the child will never learn them unless they are drilled into him by instruction before he has any intellectual or practical use for them. If we could really believe that attending to the needs of present growth would keep the child and teacher alike busy, and would also provide the best possible guarantee of the learning needed in the future, transformation of educational ideals might soon be accomplished, and other desirable changes would largely take care of themselves.

It is no wonder, then, that Rousseau preaches the necessity of being willing to lose time. “The greatest, the most important, the most useful rule of education is: Do not save time, but lose it. If the infant sprang at one bound from its mother’s breast to the age of reason, the present education would be quite suitable; but its natural growth calls for quite a different training.” And he says, again, “The whole of our present method is cruel, for it consists in sacrificing the present to the remote and uncertain future. I hear from afar the shouts of the false wisdom that is ever dragging us on, counting the present as nothing, and breathlessly pursuing a future that flies as we pursue; a false wisdom that takes us away from the only place we ever have and never takes us anywhere else.”

In short, if education is the proper growth of tendencies and powers, attention to the process of growing in the particular form in which it goes on from day to day is the only way of making secure the accomplishments of adult life. Maturity is the result of the slow growth of powers. Ripening takes time; it cannot be hurried without harm. The very meaning of childhood is that it is the time of growth, of developing. To despise the powers and needs of childhood, in behalf of the attainments of adult life, is therefore suicidal. Hence “Hold childhood in reverence, and do not be in any hurry to judge it for good or ill. Give nature time to work before you take upon yourself her business, lest you interfere with her dealings. You assert that you know the value of time and are afraid to waste it. You fail to perceive that it is a greater waste of time to use it ill than to do nothing, and that a child ill taught is further from excellence than a child who has learned nothing at all. You are afraid to see him spending his early years doing nothing. What! Is it nothing to be happy, nothing to jump and run all day? He will never be so busy again all his life long. . . . What would you think of a man who refused to sleep lest he should waste part of his life?” Reverence for childhood is identical with reverence for the needs and opportunities of growth. Our tragic
error is that we are so anxious for the results of growth that we neglect the process of growing. "Nature would have children be children before they are men. If we try to invert this order we shall produce a forced fruit, immature and flavorless, fruit that rots before it can ripen. . . . Childhood has its own ways of thinking, seeing, and feeling."

Physical growth is not identical with mental growth but the two coincide in time, and normally the latter is impossible without the former. If we have reverence for childhood, our first specific rule is to make sure of a healthy bodily development. Even apart from its intrinsic value as a source of efficient action and of happiness, the proper development of the mind directly depends upon the proper use of the muscles and the senses. The organs of action and of reception are indispensable for getting into relation with the materials of knowledge. The child's first business is self-preservation. This does not mean barely keeping himself alive, but preservation of himself as a growing, developing being. Consequently, the activities of a child are not so aimless as they seem to adults, but are the means by which he becomes acquainted with his world and by which he also learns the use and limits of his own powers. The constant restless activities of children seem senseless to grown-up people, simply because grown-up people have got used to the world around them and hence do not feel the need of continual experimentation. But when they are irritated by the ceaseless movements of a child and try to reduce him to a state of quiescence, they both interfere with the child's happiness and health, and cut him off from his chief means of real knowledge. Many investigators have seen how a sound bodily state is a negative condition of normal mental development; but Rousseau anticipated our present psychology as to the extent in which the action of the organs of sense and movement is a positive cause of the unfolding of intelligence. "If you follow rules that are the opposite of the established practice and instead of taking your pupil far afield, wandering to distant places, far-off lands, remote centuries, the ends of the world and to heavens themselves, you keep him to himself, to his own concerns, he will be able to perceive, to remember, and to reason in nature's order of development. As the sentient infant grows into an active being, his discernment keeps pace with his increase in strength. Not till strength is developed beyond the needs of self-preservation is the faculty of speculation manifested, for this is the faculty of employing superfluous strength for other than necessary purposes. Hence, if you would cultivate your pupil's intelligence, cultivate the strength it is meant to control. Give his body constant exercise, make it strong and healthy in order to make him good and wise; let him work, let him do things; let him run and shout; let him be on the go. . . . It is a lamentable mistake to imagine that bodily activity hinders the working of the mind, as if the two kinds of activity ought not to advance hand in hand, and as if the one were not intended to act as guide to the other."

In the following passage Rousseau is more specific as to the way in which the physical activities which conduce to health and the growth of mind reenforce each other. "Physical exercise teaches us to use our strength, to perceive the relation between our own and neighboring bodies, to use natural tools which are within our reach and adapted to our senses. . . . At eighteen we are taught in our schools the use of the lever; every village boy of twelve knows how to use a lever better than the cleverest mechanician in the academy. The lessons the scholars give one another on the playground are worth a hundredfold more than what they learn in the classroom. Watch a cat when she first comes into a room. She goes from place to place; she sniffs about and examines
everything. She is not still for a moment. It is the same with a child when he begins to walk and enters, as it were, the room of the world about him. Both use sight, and the child uses his hands as the cat her nose.

"As man's first natural impulse is to measure himself upon his environment, to find in every object he sees the qualities that may concern himself, so his first study is a kind of experimental physics for his own preservation. He is turned away from this, and sent to speculative studies before he has found his own place in the world. While his delicate and flexible limbs and keen senses can adjust themselves to the bodies upon which they intended to act is the time to exercise senses and limbs in their proper business—the time to learn the relation between themselves and things. Our first teachers in natural philosophy are our feet, hands, and eyes. To substitute books for them does not teach us to reason; it teaches us to use the reason of others rather than our own; it teaches us to believe much and to know little.

"Before you can get an art, you must first get your tools; and if you are to make good use of your tools, they must be fashioned sufficiently strong to stand use. To learn to think, we must accordingly exercise our limbs, our senses, and our bodily organs, for these are the tools of intellect. To get the best use of these tools, the body that supplies us with these tools must be kept strong and healthy. Not only is it a mistake that true reason is developed apart from the body, but it is a good bodily constitution that makes the workings of the mind easy and correct."

The passage shows how far Rousseau was from considering bodily development as a complete end in itself. It also indicates how far ahead he was of the psychology of his own day in his conception of the relation of the senses to knowledge. The current idea (and one that prevails too much even in our own time) was that the senses were a sort of gateway and avenue through which impressions traveled and then built up knowledge pictures of the world. Rousseau saw that they are a part of the apparatus of action by which we adjust ourselves to our environment, and that instead of being passive receptacles they are directly connected with motor activities—with the use of hands and legs. In this respect he was more advanced than some of his successors who emphasized the importance of sense contact with objects, for the latter thought of the senses simply as purveyors of information about objects instead of instruments of the necessary adjustments of human beings to the world around them.

Consequently, while he makes much of the senses and suggests many games for cultivating them, he never makes the mere training of the senses an object on its own account. "It is not enough," he says, "to use the senses in order to train them; we must learn to judge by their means—we cannot really see, hear, or touch except as we have learned. A merely mechanical use of the senses may strengthen the body without improving the judgment. It is all very well to swim, run, jump, whip a top, throw stones. But we have eyes and ears as well as arms and legs, and these organs are necessary for learning the use of the rest. Do not, then, merely exercise strength, but exercise the senses as the powers by which strength is guided. Make the best use of every one of them, and check the results of one by another. Measure, count, weigh, compare. Do not use force till you have estimated the resistance; let estimation of the effect always precede application of the means. Get the child interested in avoiding superfluous and insufficient efforts. If you train him to calculate the consequences of what he does and then to correct the errors of his prevision by experience, the more he does, the wiser he will become."

One more contrast between teaching which guides
natural growth and teaching which imposes adult accomplishments should be noticed. The latter method puts a premium upon accumulating information in the form of symbols. Quantity rather than quality of knowledge is emphasized; results that may be exhibited when asked for rather than personal attitude and method are demanded. Development emphasizes the need of intimate and extensive personal acquaintance with a small number of typical situations with a view to mastering the way of dealing with the problems of experience, not the piling up of information. As Rousseau points out, the facility with which children lend themselves to our false methods is a constant source of deception to us. We know—or fancy we know—what statements mean, and so when the child uses the proper form of words, we attribute the same understanding to him. "The apparent ease with which children learn is their ruin. We fail to see that this very ease proves that they are not learning. Their shining, polished brain merely reflects, as in a mirror, the things we show them." Rousseau describes in a phrase the defect of teaching about things instead of bringing to pass an acquaintance with the relations of the things themselves. "You think you are teaching him what the world is like; he is only learning the map." Extend the illustration from geography to the whole wide realm of knowledge, and you have the gist of much of our teaching from the elementary school through the college.

Rousseau has the opposite method in mind when he says, "Among the many shortcuts to science we badly need one to teach us the art of learning with difficulty." Of course his idea is not to make things difficult for the sake of having them difficult, but to avoid the simulation of learning found in repeating the formulae of learning, and to substitute for it the slow and sure process of personal discovery. Textbooks and lectures give the results of other men's discoveries, and thus seem to provide a shortcut to knowledge; but the outcome is just a meaningless reflecting back of symbols with no understanding of the facts themselves. The further result is mental confusion; the pupil loses his original mental surefootedness; his sense of reality is undermined. "The first meaningless phrase, the first thing taken for granted on the authority of another without the pupil's seeing its meaning for himself, is the beginning of the ruin of judgment." And again: "What would you have him think about, when you do all the thinking for him?" (And we must not forget that the organized material of our text and set lessons represents the thinking of others.) "You then complete the task of discrediting reason in his mind by making him use such reason as he has upon the things which seem of the least use to him."

If it was true in Rousseau's day that information, knowledge, as an end in itself, is an "unfathomable and shoreless ocean," it is much more certain that the increase of science since his day has made absurd the identification of education with the mere accumulation of knowledge. The frequent criticism of existing education on the ground that it gives a smattering and superficial impression of a large and miscellaneous number of subjects, is just. But the desired remedy will not be found in a return to mechanical and meager teaching of the three R's, but rather in a surrender of our feverish desire to lay out the whole field of knowledge into various studies, in order to "cover the ground." We must substitute for this futile and harmful aim the better ideal of dealing thoroughly with a small number of typical experiences in such a way as to master the tools of learning, and present situations that make pupil hungry to acquire additional knowledge. By the conventional method of teaching, the pupil learns maps instead of the world—the symbol instead of the fact. What the pupil really needs is not exact information about topography, but how to find out for himself. "See what a difference there is between the knowledge of your pupils and the ignorance of mine. They learn maps; he makes them." To find out how to make knowledge when it is needed is the true end of the acquisition of information in school, not the information itself.