

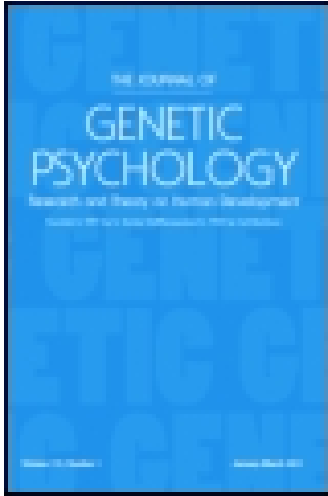
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## THE MENTAL DEVELOPMENT OF CHILDREN\*

By G. W. A. LUCKEY

The nature of this meeting, the commemoration of the twenty-fifth anniversary of the national child study organization, throws one into a reminiscent mood. The coming into my home of a daughter in 1890 and of a son in 1891 turned my attention for the first time to real child study.

The following year I received my first baptism in the scientific study of children at Stanford University under the direction of the young but virile prince in that field, Professor Earl Barnes. In 1894, at Clark University, I came in touch with that living master of research in genetic psychology, the father of child study in America, the lover of truth, the children's friend whom we honor today, our own G. Stanley Hall.

Among the early prominent leaders in this new field were: Preyer, Tiedemann, Sigismund, Kussmaul, Genzmer in Germany; Darwin, Sully, Pollock, Warner in England; Taine, Perez, Eggert, Binet, Compayre in France; Hall, Dewey, Baldwin, Barnes, Miss Shinn, Mrs. Hogan in America; not to mention others whose excellent works in the early eighties and nineties did much to steady the movement. One can scarcely keep back the thought 'that if our efforts had only been stronger and our intelligence keener we might have prevented, by working together, this cruel war with all its human tragedies. Humanity is the same the world over. To know and control thyself, or, in other words, to discover God's laws and obey them, is the essence of all truth.'

Like every new movement, child study presented much of dross. Professional reputations were made and lost in a day. It was difficult to select the true from the false. Discouragements came thick and fast. The pseudo-expert who had entered the field for quick returns, left in disgust. The subject was so complex and results obtained often so meager, that many of our best students faltered. Even this organization in an unguarded moment added fuel to the criticism by changing the name of the department from Child Study to the less appropriate term Child Hygiene. But Child Study in its true sense has come to stay. Hosts of teachers are again returning

\* An address given before the National Education Association, Pittsburgh, July, 1918.

to their first love, and by means of the opportunity now furnished them through graduate schools of education, they will be able to change their entire attitude and worth as teachers. There is to us all but one book, the book of nature with man its highest product and only interpreter. The true interpretation of this book gives all the truth and culture to be found in human life. Every individual has or may have the key which unlocks this sacred storehouse of all wisdom. The deeper and richer our study the more we become convinced that the essence of life and the laws of growth are the same in plant, animal, man. The study of one leads to a knowledge of all. Each is fashioned, through inheritance, to a special mould from which it cannot deviate except in the slightest degree, and then only on the juxtaposition of the greatest forces working in harmony. The common elements in all life are so numerous and so convincing that only the ignorant or mentally perverse need fail to see the relation and catch the spirit of the unity of life.

From the lowest to the highest forms of life this unity and conditioning of one by means of the other leads to faith in the plan and reverence for the truth that shall make us free. Under other circumstances I should like to call your attention to some of the beauties of the law of evolution, as manifested in the lower forms of life, indicating the value of construction and increase of life to destruction and loss of life, but another problem awaits me.

Man begins the journey of life as the plant or other animals, with a single cell. Through growth and cell-division the change is miraculously rapid at first increasing over nine-hundred-million fold during the first nine months and then increasingly slower, or about twenty fold more in the next twenty or twenty-five years. By adult life the single cell of the beginning has multiplied to represent more rather than less than four-hundred-billion cells clustered into groups and differentiated into organisms each with its special function and work to perform. Any disturbance of a single organ may be sufficient to throw the whole machinery out of gear. To illustrate, the thyroid gland, the function of which is not yet well understood, seems to secrete a food essential to higher brain growth and functioning, and also to act favorably as a remover of the toxic products of metabolism of the higher nervous system. Hence any pathological condition of the thyroid gland, as in goiter, myxedema, cretinism, is apt to be accompanied with severe mental disturbance, if not a complete nervous breakdown and feeble-mindedness. It is the clearer knowledge of this conditioning relation between the parts and functionings of the body that is bringing clearer to conscious-

ness the vital need of the psychological clinic to the public school system. If we surround the child with a suitable environment, remove as far as possible the evil effects of parental mistakes, feed each organism—physical and psychical—when hungered and nascent, teach the individual to direct and control the lower processes of thought and action by means of the higher, nature will do the rest and we shall all be proud of the product. The living organism must fill the mould before it can change or break it; that is, all progress of civilization takes place at the top.

The individual of today represents the accumulated experiences of countless generations. At the bottom of the push for greater and better life is the will to live. It is found in all animal existence, and causes the struggle that makes for civilization. Through it the one-celled animal adds sustaining elements to all life above it. Nature's laws are eternal and cannot be broken or set aside without injury to the whole fabric. To live and act in harmony with these laws means the fulfillment of God's plan and the establishment of the greatest good and happiness to man.

Every cell or organism, whether acting alone or in group, manifests this particular individual will to live; when acting in group it takes on a new function without surrendering the old, i.e., the will to live as a member of the special group. This is the essence of all later development, whether physical or psychical, and probably represents the biological root of individualism and socialism, a dualism in all that cannot be changed without the destruction of life itself.

But passing from the early beginnings to the twentieth century man, he is, as is well known, the embodiment of all that has gone before. To every individual, through growth and development, is furnished the opportunity to pass rapidly through the conditioning experiences of all the past, and then add his bit of truth at the top for the sustaining happiness of coming generations.

Because of the rich inheritance that falls to the lot of every individual and the binding effect of the inner life upon growth and development, intellectual freedom becomes a matter of necessity for all, or their failure to advance is ours, not theirs. In this growth and living over the history of the past the individual does so on many different levels. There are three in particular, found in childhood and again repeated in adolescence, to which I desire to call your attention. From birth to twenty or possibly twenty-five the individual passes through two important life-cycles of growth each containing three distinct stages or levels of growth. The first, from birth to two or possibly three, is the emotional level when the feelings are

dominant. The child is now a dermal animal. The epithelial tissue which includes not only the covering of the body but also the alimentary canal, the lungs, nervous system, etc., is making its greatest growth, and since it contains all the sensitive end-organs, it is easy to see why the feelings are now storing up a rich harvest for future use.

The second, from three to seven or eight, is the volitional level when will is dominant. The child is now a motor animal. The muscles, especially the large fundamental muscles, are passing through their most rapid growth, and require the exercise that makes of the child a dramatic or doing animal.

The third, from eight to twelve or fourteen, is the intellectual level when intelligence begins to get control and is dominant. The child is now a discriminating animal. The finer muscles are developing and demanding exercise or use. Skill of movement now takes the place of the awkwardness of former years and lays the foundation of the formal side of education essential in later years.

As is well known, all true education develops from within and cannot be hurried nor aided by dictation nor force from without. If education is the change wrought in an organ or organism through individual experience, one can see how by following in the path of the biological steps here shown and conforming our teaching to the inevitable laws of nature, we could soon create a new civilization.

True teaching consists in discovering the natural laws of human development and bringing the mental food to the child in the form and at the time in which it is needed and can be utilized. This first cycle of individual growth is known as childhood. It is selfish, individualistic, and based on physical hunger, food-getting and self-preservation.

The second cycle is known as the cycle of adolescence. It repeats in a similar order the same three levels or stages of development. A new birth occurs, the entire physical growth begins anew. The motive is sex hunger, procreation, and parental instincts. Socialism and altruism become necessary concomitants of future existence and tend to increase the individual love of life and interest in nature.

The difference in the rate of development now between the boy and girl makes it necessary in our scheme to separate them. Hence I shall proceed with the boy in mind. From fourteen to sixteen the dominant growth changes seem to be dermal affecting the epithelial tissue and producing innumerable new feelings and emotional desires. This is known as the adolescence period *par excellence* in gathering, testing, trying-out, and storing away new experiences, laying the foundation for later versatility and strength.

From sixteen to eighteen (the definiteness of these statements should not indicate that there are not many overlapping) is the second period of most rapid growth of the large fundamental muscles when the will and the desire to do are again dominant. This is the time for general training and education. The boy now delights in rivalry and feats of strength. If he is not handled right he may leave school before his time to enter the dynamic world where he can do and dare. Woe to the insipid teacher in this stage and the next; later generations must suffer for the want of a man. Today, as never before, the world needs men, truly educated men; men of clear vision and consecrated wills; men who believe in God and love His children; men who will not hesitate nor falter where truth points the way.

From eighteen to twenty or twenty-five is the period of the second rapid development of the finer or accessory muscles. This is the period *par excellence* for specialization in education, the selecting of a profession or trade and perfecting ability and worth in it; seeing, appreciating, and promulgating the finer things of life. The individual is sure to appreciate the natural order of human development and have many inclinations to follow it in the direction of a higher life and a better civilization. If he does not improve upon his inheritance it is because of a faulty environment or bad teaching and not because that God so willed it.

If you have followed me thus far I shall ask you to go with me now over another step which to my mind is the most important of all. I have been considering human development ontogenetically; I desire now to consider it phylogenetically. As the individual passes through his ontogeny by means of special steps or levels, so he lives over and develops his racial history on definite stratas or special levels, three of which must have held his forbears fixed for ages. If we now take a sweeping view of racial history and experience, we note that besides the dualism resulting from the interaction of the physical and psychical, there is the well-known trinity of the psyche-emotion, volition, intelligence. Now if we consider the larger period of human development when the feelings and emotions are dominant, and when body growth is the principal function, I think we can safely say it covers the first twenty to twenty-five years of life. Barring the stress and strain and the many struggles of altruism that appear, it is the period of selfish individualism, the perfecting of the body and of being stimulated through the fundamental feelings and emotions. It is a period of body building, egoism, and self-preparation. The chief motive is physical hunger, including the instinct of self-preservation.

From the early twenties to forty-five or fifty the whole purpose and nature of life changes. It is now actuated by sex hunger, procreation, parenthood, and the protection and care of the young. As the former life centered in the immediate interest of the individual, the development of a strong body and an energetic mind, the present life centers around the needs and immediate interests of offspring. It is to a degree social and altruistic. We begin to live for others: the family, the clan, the tribe, the race, the nation. It is the period of construction, homemaking, industry, practical sciences, lower patriotism, sectionalism, nationalism. In a broad sense it is the volitional period of life *par excellence*, when men for the sake of offspring and his immediate group executes the earlier fundamental functions of the world's work.

From fifty to seventy-five or eighty, as life is now constituted, is another vitally important period to every normal individual. It is the period of intelligence *par excellence* when the individual, who has lived in harmony with nature's plan, is free and ready to render his best service to humanity. The individual who has lived wisely, and passed normally through the other two stages, is now ready to enter efficiently and religiously upon his highest life's work. It is to the healthy individual, the period of constructive thinking, as the first was one of feeling and emotion, and the second, one of volition. The fundamental motive now is the hunger for truth, the desire to know the true purpose of life, and the will to render the greatest service to mankind. Man has now come into vital touch with his spiritual inheritance, the last great level on and through which he is permitted to live; but how worthy may be the ending and the service rendered.

Each level, no doubt, represents ages of static conditions of the race, until some fortuitous variation, more useful than others, led the race that survived to a higher level. Through these ages of struggle and push upward of our ancestors, we may move rapidly through the entire history and come again into vital touch with the essential experiences of the entire past. The latter is what is meant by true culture. To all individuals such a mission is possible and intended. If we do not live to enter upon it, or become fixed in a lower level when it was intended we should serve in a higher, the fault is ours, our parents, or our teachers, and not that of nature.

I have turned over rapidly in your presence a few pages of the book of nature, quoting at random a few of the thoughts that appeared on the surface; that I have not been able to select the best nor completely satisfy my hearers is as plain to me as it is to you. With this foundation I should like to discuss more fully the mental development of children. If

you have followed me thus far, you can add the details; if you have not been able to follow me, the details themselves would be uninteresting. True intelligence can only be developed when the organism concerned is nascent and supplied with sufficient energy. Some minds are able to utilize more intellectual food than others, and there are times when all are dull. All children respond to teaching that is well directed and furnished in proper quantity and right quality. The three intellectual periods mentioned above are the ones in which the growth of intelligence should be stressed, but all levels are vital to the life of the individual and should be given sufficient food and stimulation when nascent. The three psychic elements of feeling, willing, knowing are combined in every act and so interrelated that one cannot be developed far without the other.

One fact of human development I should like to leave with you with such burning clearness that you can never forget it. The book of nature from which I have been sketching is written, through nervous complexes, impulses, traits, instincts, indelibly in the soul of every individual. The least stimulation of these latent elements when nascent and ripe will set them off. When nature becomes to you a mirror, look in; behold thyself and see God. Why any man who by controlling his own complexes and working out his own salvation might become great, should desire to force his thought and methods of thinking upon another, thus preventing the other from reaching his highest goal, is an enigma hard to understand. Teachers should avoid it and never give for truth what is not truth. Education should make men free, and not slaves.

Are you intelligent and clean? Are you blessed with a real hunger for truth? Have you been a faithful student of child-life? Do you *really love children? All children?* You are saved; go forth and save others.