HUMAN BODY GROWS IN THREE SPURTS

Though a baby, or a small boy, may "grow like a weed", his growth does not go on at a steady, unvarying rate, but in three grand spurts, which overlap each other, making the "growth curve" which scientists plot to measure the rate into a very complex affair. Dr. Charles B. Davenport, of the Carnegie Institution of Washington, told of his studies of this problem at the annual meeting of the National Academy of Sciences.

The first period of maximum growth rate is right at the time of birth. The baby grows fast, as everybody knows, but the rate of growth falls off for several years. Then it starts to speed up again, and in the case of boys at least, it reaches a climax at about eight years - that embarrassing time when a fellow's knees simply will not stay inside their proper garments. A second slowing-down follows, and then a second speeding up, the rate of growth reaching its maximum at fifteen - the "all hands and feet" period, when the youth is "shooting out of his shoes".

The three growth-spurts, Dr. Davenport stated, correspond closely with periods of greatest activity of some of the internal glands. The first and second periods ofgrowth correspond with activity on the part of thyroid and pituitary glands, respectively, whose secretions are known to be growth-promoting. The third cycle, said Dr. Davenport, is a fundamental one, underlying the others, andprobably represents some more general growth stimulus exerted from the time of the first existence of life until growth stops altogether.

MIND OF HUMAN BEING ORGANIZED BEFORE BIRTH

Our important attitudes toward life are all determined by the time we are born into this world, Dr. Steward Paton, lecturer on neuro-biology at Princeton University, told the American Philosophical Society at its meeting recently.

"The development of certain structures of the body enables the embryo to catch the rate and rhythm of the Dance of Life," Dr. Paton declared. "And within certain limits the embryo is able to modify its reactions to meet demands of its environment. Successes and failures in adapting to the restricted but urgent requirements of embryonic existence prepare the way for successes and failures of life after birth. During this period we have clear indications of what the individual's attitudes will be in the face of critical situations, while intimation is given of what the temperamental qualities are upon which adult character and the entire personality are based.

The old fundamental urges to live, to grow, and to perpetuate the race are expressed by the organism even before birth, Dr. Paton stated.

"Different embryos express their wish to live, move, and have their being in different ways - no two embryos are exactly alike in their reactions," he said. "The rhythm, the tempo of responses to stimuli show wide individual variations."

The centers forregulating the oldest, primitive, and most urgent wishes are in

the oldest part of the nervous system, the medulla oblongata, Dr. Paton told the society. During the embryonic stage of existence the complicated machinery which provides for inhibitions is developed, thus giving the organism the power of preferential action. In addition to providing for inhibitions, in these early stages of development, arrangements are also made for accelerating and increasing the strength of impulses. The embryo must early learn the speed and tempo at which its life can be satisfactorily regulated.

In conclusion Dr. Paton said: "It is a marvelous comment upon our lack of foresight and interest in finding reasonable solutions for human problems that so little attention has been devoted to investigating the nature and organization of the really fundamental processes shaping our personalities."

KILLS ANIMALS WITH NOISES

A "death-noise" instead of a "death-ray", was the phenomenon discussed recently before the National Academy of Sciences by Prof. R. A. Wood and Alfred L. Loomis, of the Johns Hopkins University. The "death-noise" would have been inaudible to human ears, but it consisted of sound waves just the same, and it killed small fishes and other aquatic animals in vessels of water, in less than a minute.

The two researchers generated exceedingly high-frequency sound waves by means of electrical apparatus. The waves were produced at a rate of from 100,000 to 400,000 to the second; the upper limit of audibility to human ears is between 20,000 and 30,000. If a beam of these sound waves is directed toward the surface of the water, Prof. Wood stated, the surface is heaped up in a mound. The vibrations heat the water, a rise of nearly ten degrees Fahrenheit in one minute having been recorded.

SCHOOL CHILDREN SHOULD BE EXAMINED FOR DEAFNESS

Less than fifty per cent. of children of school age have normal hearing, according to a statement made by Dr. Horace S. Newhart, of Minneapolis.

In a paper delivered before the section of the American Medical Association on diseases of the ear, nose and throat, he declared that the impairment of hearing was due in most cases to defects that could be easily corrected. He stressed strongly the necessity of regular examination of the ears of school children as a preventive measure to keep down the prevalence of deafness of the future.