THE GUIDANCE
OF
MENTAL GROWTH
IN
INFANT AND CHILD

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THE GUIDANCE OF MENTAL GROWTH IN INFANT AND CHILD

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To
My
Co-Workers
of
The Yale Psycho-Clinic

PREFACE

IN the last five years there has been an extraordinary increase of interest and effort in the general field of the mental hygiene of young children. The problems are numerous, the points of view and directions of approach are diverse. The author has been concerned with these problems both from the standpoint of developmental research and of child guidance.

The present volume assembles new material and also papers which have been previously presented to lay and professional groups. An historical introduction is included chiefly to suggest the significance of the trends of present day scientific work in the study of child development. The concluding section considers in a broader way the significance of science in the protection and control of child growth. The body of the volume deals with practical problems and methods in the field of developmental guidance with special reference to concrete applications. The range of subjects treated is wide and the treatment varies with subject and audience. But each chapter relates itself definitely to the central problem of early mental growth. Growth is treated as a unifying concept which has important philosophical implications for the determination of practical procedures in the field of child and parent guidance.

This volume, therefore, divides itself, as readily as Gaul, into three parts: Part One,—The Progress of Guidance Concepts; Part Two,—Problems and Meth-

ods of Child Guidance; and Part Three,—Science and the Protection of Child Growth.

I wish to thank the Editors and Publishers who have granted permission to reproduce, in part or in whole, material in various chapters as follows:—Chapter I: Annals of The American Academy of Political and Social Science, September 1930; Chapter VII, XV: The Twenty-eighth Yearbook of the National Society for the Study of Education, February 1929; including portions of a report of the work of the Guidance Nursery written with the assistance of Mr. Burton M. Castner; Chapter IX: American Child Health Association, Transactions of Third Annual Meeting, May 1926, also printed in Public Health Nurse, pp. 394–399, July 1926; Chapter X: Hygeia, Volume 4, No. 5, pp. 245–7, May 1926; Chapter XI: Delineator Child Health Department, edited by Dr. L. Emmett Holt, May 1924; Chapter XIII: U. S. Children's Bureau Publication, No. 136 (revised), pp. 1–12, 1926; Chapter XIV: Archives of Neurology and Psychiatry, Volume 22, pp. 522–529, September 1929; Chapter XVI: Mental Hygiene, Vol. 12, No. 4, pp. 780–787, October 1929; Chapter XVIII: Psychological Review, Vol, 36, No. 24, July 1929 and the Foundations of Experimental Psychology, Clark University Press, Worcester, Mass., pp. 628–660, 1929; Chapter XIX: American Journal, Diseases of Children, Vol. 37, pp. 1055–1075, May 1929.

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PART ONE

THE PROGRESS OF GUIDANCE CONCEPTS

CHAPTER I

THE CHANGING STATUS OF THE PRESCHOOL CHILD

AN INTRODUCTORY STATEMENT OF NEW TRENDS AND MOVEMENTS

ONLY a decade ago the very term *preschool* had a somewhat strange and academic flavor. Now it is spelled without a hyphen and is everywhere used as a convenient adjective and sometimes even as a noun. For the preschool child is beginning to go to school. His social status is becoming equivalent to that of the elementary school child; and although he does not come within the age limits of compulsory education and medical school inspection, his social importance has received a remarkable increase of recognition in the postwar years. This changing status is particularly reflected in the varied measures for the protection and promotion of early mental development.

Immediately after the war the hygiene of the preschool period was aptly characterized as the "No-man's Land" in the field of social endeavor. Lying outside of the ordinary limits of infant welfare work on the one hand and of public school education on the other, the years from one to five were in a sense neglected. Even

scientifically these years had received a secondary degree of attention. In the past decade this situation has so profoundly changed that the preschool sector of activity has become an everyman's land. Psychologists, psychiatrists, kindergartners, primary school teachers, home economics and social workers, public health leaders, mothers' clubs, and mental hygiene organizations are all turning to the preschool child as though he had acquired some magnetic value. Even the steady needle of the educational compass has been somewhat deflected and begins to seek this new magnetic pole. It does not appear to be a passing wave of interest; but a many-sided social movement arising out of new concepts of family and child life.

In some of its phases this movement came to earlier expression in England than in America. In 1918 the British Parliament passed the Education Act with a clause which has become historic: "The powers of Local Education Authorities shall include power to make arrangements for supplying or aiding the supply of nursery schools . . . for children over two and under five years of age . . . whose attendance at such a school is necessary or desirable for their healthy physical and mental development." This enactment must be regarded as a most significant extension of social control in the field of mental hygiene. Economic and humanitarian factors have figured conspicuously in the preschool child welfare activities of England.

In America, organized interest in the preschool child

has had many sources. There has been concern for the underprivileged nursery child, but the problems have been approached from the varied angles of public health, the kindergarten, parental education, child guidance, and developmental research. Children from favored social-economic levels have figured almost more prominently than the less fortunate. So varied have been the activities that it is difficult to give them summary characterization even under the broad caption of mental hygiene. It is significant, however, that nearly all of these activities have been concentrated in the past ten years. A decade ago only a few pioneer nursery schools were in existence. Now they are almost a standard feature of the American university campus. A decade ago the provisions for parental education were meagre and scattered. In comparison the provisions of today are extensive in scope; and they are becoming an organic part of adolescent and adult education. A decade ago child guidance facilities for children of early age were almost unknown; methods of psychological diagnosis were not available. A decade ago the present extensive organization of child research was in its beginning. Since then America has become the leading country of the world in the volume and diversity of its scientific investigations into early child development.

In 1919 the Children's Bureau Conference on Child Welfare Standards, called by the Secretary of Labor at the request of the President of the United States, formulated the following as one of its minimum standards:

"A sufficient number of children's health centers to give health instruction under medical supervision for all infants and children not under the care of a private physician, . . . at least once a month throughout the first year, and at regular intervals throughout the preschool age."

Although this declaration was primarily directed to the protection of physical welfare, in application it comes to embrace problems of a psychological or educational character. The preventive trend of maternity and infancy work has in the past decade led to an increasing emphasis on the mental aspects of child care, and the educational guidance of parents.

In 1921 Congress passed the federal Maternity and Infancy Law. The practical work under this law likewise has inevitably widened to include incidental activities of a mental hygiene character. In 1928, approximately 1600 workers in 45 coöperating states and Hawaii were paid from maternity and infancy funds. Twenty of these states reported 7,000 additional volunteer assistants, lay and professional. More than 313,000 infants and preschool children were examined; more than 700,000 home visits of instruction by public health nurses were reported; 6,000,000 pieces of health literature were distributed. These figures give some indication of the vast opportunities of mental hygiene work, which arise out of public provisions for medical supervision. Both in public health work and in private general and pediatric practice there has been a steadily

growing recognition of the mental factors in child health and in parental responsibility.

In 1930 Herbert Hoover called a White House Conference on Child Health and Protection to report on the present status of health and well being of the children of the United States; on activities in the field of child hygiene; on possible steps to be taken in readjusting and supplementing community programs for child health and protection to meet the needs of children more adequately and expeditiously. The details of organization of this conference were undertaken by a committee, with Dr. Ray Lyman Wilbur as Chairman. Although the work of the Conference has not been completed at the present writing, the organization of the Conference has proceeded far enough to clearly forecast an emphasis upon the mental hygiene of early childhood.

The work of the Conference has been divided into four sections, namely: I. Medical Service; II. Public Health Service and Administration; III. Education and Training; IV. The Handicapped. It is significant that the first subdivision under Section I deals in a foundational manner with the subject of *Growth and Development,* treated, from mental as well as physical standpoints. Under Section III there is a special subdivision devoted to family and parent education and another to the infant and preschool child. The organization and reports of this White House Conference therefore furnish further evidence of the enhanced status of

the preschool child and of the new tendency to bring the problems of physical and mental welfare into close relationship.

A noteworthy evidence of the new status of the preschool child came forth in 1929 in the Twenty-eighth Yearbook of the National Society for the Study of Education. This society appointed a committee for the preparation of a survey of the accomplishments and trends in the field of Preschool and Parental Education. A volume of 875 pages was published dealing with the organization of preschool education; provisions for parental and preparental education; professional training of leaders; child research and training methods. This volume clearly reflected the interwoven functions of the numerous agencies which now affect both the daily and the special mental hygiene of the preschool child.

Mention should also be made here of the work of the Laura Spelman Rockefeller Memorial. This Foundation organized in 1918 for the advancement of the social sciences has in the past decade given substantial support to programs of research and to educational projects in the field of early child development. The Foundation has also made possible four nation-wide conferences of scientists and specialists concerned with the study of the physical and mental nature of the child. The conferences were held under the auspices of The National Research Council.

The nursery-school movement both in England and

in America has been a significant symptom of the changing status of the preschool child. Nearly all of these schools were established in the postwar decade. Their total enrollment is only a few thousand children, but the social importance of the nursery school movement greatly exceeds its numerical limitations. Nursery schools are now being conducted in close association with universities and adult education agencies and their influence is widely felt at the present time. Although the nursery school procedures and philosophy are by no means crystallized, they have proved suggestive and liberalizing to kindergartners, day nursery and parental groups. The management of problem children in nursery schools is helping to define methods of child and parental guidance.

In 1926 representatives of nursery school education organized themselves into a National Committee of Nursery Schools. During the year 1930 this organization widened its scope and a National Association for Nursery School Education was formed. The work of the Committee has enjoyed the coöperation of the National Council of Parental Education, the National Council of Primary Education, the International Kindergarten Union, and similar groups.

The last named organization, the International Kindergarten Union, has changed its name to The Association of Childhood Education. This action expresses a significant trend toward the unification of nursery, kindergarten, and primary education. The nursery

school and the kindergarten are so important for the changing status of the preschool child that they will receive special discussion in chapters of the present volume.

A decade ago mental hygiene activities in behalf of children were largely limited to the adolescent and the pre-adolescent age. But the preventive trend of the mental hygiene movement and of supervisory pediatrics, and the increase of knowledge in the fields of genetic and applied child psychology, have conspired to place an increasing emphasis upon the younger age groups both in the fields of diagnosis and of guidance. This tendency has been accelerated by the success of the nursery schools which have frequently coped successfully with the management of problem children and the treatment of faulty parent-child relationships.

The necessities of mental hygiene control of the parent-child relationship and of a developmental diagnosis of foster children prior to placement and adoption have put an added premium upon the downward extension of psycho-clinical methods. With the education of public opinion in the significance of behavior problems, and in the value of healthy mental growth, the preventive aspects of public health work and professional medicine demand increasing attention. As a result the general practitioner, the pediatrist, and the psychiatrist, both in the public clinic and in private practice, are concerning themselves more and more with psychological problems in young children and their parents. The

close of the nineteenth century witnessed the establishment of the principle of safe-guarding the physical health of the new born child. The twentieth century, and most notably the present decade of the twentieth century, witnesses the broadening of this principle to include a comprehensive developmental supervision concerned with mental as well as physical health. Early mental growth demands protection.

Science is laying the foundations for such protection. In many respects the most conspicuous and significant feature of the past two decades is the extraordinary increase in the volume of research relating to child development. This increase is the result of the expansion of the fundamental biological sciences and the new interest in the understanding of the mechanism and forces of social organization. The study of child development has become at once a branch of human biology and of social science. The problems of child development involve such varied scientific fields as biochemistry, developmental anatomy, nutrition, anthropometry, anthropology, psychiatry, pediatrics, and genetic, experimental, comparative, and clinical psychology. Child development is a focal area for psycho-biological and medical knowledge converging upon the central problem of early human growth. Growth is proving to be a unifying scientific concept.

The postwar decade is notable for the intensity of activity in the fields of genetic science. A survey made (1926) under the auspices of the National Research

Council Committee on Child Development shows 418 scientists working in these fields. Of these, 26 per cent were active in the field of health and disease in their relations to child development; 21 per cent were studying behavior and habit problems, personality traits, personality adjustment, emotional balance, and general mental hygiene; 24 per cent were engaged with problems of anatomy and physical growth, including general bodily growth and anthropometry; influences on growth, relationships and comparisons; the anatomy and growth of parts and organs; and embryological and fetal anatomy and growth.[1]

The National Research Council in 1926 issued a bibliography on the analysis and measurement of human personality *up to 1926*. Thirteen hundred titles were reported. A classification of these titles revealed the interesting fact that 56 per cent of the titles appeared in the five-year period from 1921 to 1925, contrasted with 22 per cent for the period from 1916 to 1920; 11.1 per cent for 1911 to 1915; 5 per cent for 1906 to 1910; 1.5 per cent for 1901 to 1905; and 4 per cent for the period up to 1900. These figures constitute a suggestive, objective index of

[1] The correlational tendencies of modern science are reflected in the fact that the quarterly, *Abstracts of Child Development*, prints selections from the current numbers of a dozen journals and abstracts, some of which are themselves the clearing house of innumerable contributing journals, foreign and domestic. The list of journals includes: The Journal of the American Medical Association, The Journal of Nervous and Mental Disease, American Journal of Physical Anthropology, the Wistar Institute Bibliographic Service, American Journal of Diseases of Children, Archives of Neurology and Psychiatry, Psychological Abstracts, Physiological Abstracts, Chemical Abstracts, Mental Hygiene, and Endocrinology.

the rapidly increasing literature dealing with the problems of human growth and personality.

Suggestive facts are brought out by a quantitative summary of "The Literature on the Growth and Physical Development of the Fetus, Infant, and Child."[2] Dr. Richard E. Scammon has compiled a notable bibliography of 5400 titles on this subject and estimates that the probable total number of separate papers, pamphlets and books of a scientific nature are in the neighborhood of 7500 titles.

When the titles on Bodily Growth and Physical Development are distributed according to the dates of publication, the following interesting chronology results:

DATES	TOTAL NUMBER OF TITLES	PERCENT OF TOTAL
1500–1600	11	0.21
1600–1700	30	0.56
1700–1800	199	3.71
1800–1825	74	1.38
1825–1850	145	2.70
1850–1875	395	7.37
1875–1900	1759	32.80
1900–1925	2749	51.27

When the titles are listed with respect to subject matter, it appears that 30 per cent of the total deal with general body growth; 14 per cent with the skeleton and musculature; 7 per cent with the nervous system. Forty-six per cent of the publications are in the German lan-

[2] *The Anatomical Record,* Vol. 35, No. 3, May, 1927.

guage, 20 per cent in French, 18 per cent in English, 7 per cent in Italian, 5 per cent in Latin, with smaller percentages for the Slavonic, Scandinavian, Spanish, Dutch, and other languages.

These figures bring out in an impressive way, the fact that the growth of science is international. America is making a distinctive contribution to the field of Child Development, but this contribution is by no means isolated from the vast network of scientific knowledge which began to evolve centuries ago. All the bibliographic statistics indicate that there has been a striking increase of research in psycho-biological fields since 1900, and a special augmentation since 1920.

There can be no doubt that the growth of modern science has profoundly changed our views of child life. The nature of this change can be sensed by rereading in ancient volumes the sober reflections on child psychology which belong to earlier centuries. We have attempted, in Part One of the present volume, to make a few historical skirmishes which may serve to restore in part the outlook of somewhat earlier generations. This outlook was colored by authoritarian, pietist, romantic, and theological concepts which are disappearing under the rationalizing influence of the biological sciences. The trend toward a new rationalism has been particularly rapid in the present century. We have come to look toward science for the basis of new interpretations, both mystical and rational, of infancy and childhood.

There is moreover a self-preservative impulse in the

new prosecution of science. Society under the weight of its burden of civilization seeks means of strengthening the psychological stamina of succeeding generations. Child research reflects the spur of this danger. Science created the mechanical features of our civilization. It now has a new task in investigating the nature and needs of the human mind which is the creator and carrier of this complicated culture.

The laws of human nature will not be ascertained by self-revelation. They must be studied with the zeal of the physicist in his pursuit of the atom and electron. Biology is investigating the racial and organic characteristics of the human species. The social sciences are construing the group life of man. Psychiatry is concerned with his aberrations, his frailties, and his tragic and near tragic failures to adjust to his fellow men. Developmental psychology is exploring the characteristics and conditions of his normal development from infancy to maturity.

Through the cumulative and correlating results of the psycho-biological sciences, we are coming into a new appreciation of the lawful determinisms and the plastic essence of human growth. The present volume throughout emphasizes the significance of the concepts of growth for the interpretation and protection of child life.

The amount of research in the field of child development is attaining stupendous proportions. The magnitude of this research should not be dismaying. Although

the results are far beyond the synthesis of any expert or group of experts, there are forces of social selection at work which constantly tend to bring the truth, and the best truth, to the surface. Science itself is shaped by laws of growth, similar to those which are being discovered in infant and child.

CHAPTER II

INFANT AND PARENT IN THE EIGHTEENTH CENTURY

THE PARENTAL DOCTRINES AND METHODS OF SUSANNAH WESLEY

JOHN WESLEY, in the course of his itinerant ministry traveled 250,000 miles (mostly on horseback), preached 40,000 times (very frequently at five in the morning), edited and translated some two hundred books, and wrote a diary which is preserved in a Journal of twenty-six volumes.[1]

In 1742, he writes in this Journal, "I left Bristol in the evening of Sunday, July 18th, and on Tuesday came to London. I found my mother on the borders of eternity."

John Wesley's mother was a rather remarkable woman. She had the abounding energy which distinguished her strenuous son. Like him, like her father,

[1] John Wesley published selections from these manuscript volumes in a work of four volumes. These were further condensed and sorted by Percy Livingston Parker into a single volume entitled "The Heart of John Wesley's Journal," Fleming H. Revell Company, London and Edinburgh, 1880, pp. 512. Wesley's Journal constitutes an important source book for a comprehension of the civilization of the eighteenth century, which his life almost spanned (Born 1703, died 1791). "No man lived nearer the center than John Wesley. Neither Clive nor Pitt, neither Mansfield nor Johnson. You cannot cut him out of our national life. No single figure influenced so many minds, no single voice touched so many hearts. No other man did such a life's work for England." (Augustine Birrell)

like her grandfather and her husband, she was "in her measure and degree" a preacher of righteousness. She interests us here, because of her well defined theories and her trenchant practice in the field of infant training and of preschool education. A mirror of her age, she was also something of a progressive, showing initiative in action and independence of judgment. She knew Latin and Greek, but could express her doctrines in cogent English.

In a letter to her husband (1711) she has left a clear record of how she came to develop a systematic program of domestic education, combined with religious work for her neighbors.

" . . . As I am a woman, so I am also mistress of a large family. And though the superior charge of the souls contained in it lies upon you; yet, in your absence I cannot but look upon every soul you leave under my care, as a talent committed to me under a trust, by the great Lord of all the families both of heaven and earth. And if I am unfaithful to him or you in neglecting to improve these talents, how shall I answer unto him, when he shall command me to render an account of my stewardship?

"As these, and other such like thoughts, made me at first take a more than ordinary care of the souls of my children and servants, so—knowing our religion requires a strict observation of the Lord's day, and not thinking that we fully answered the end of the institu-

tion by going to Church, unless we filled up the intermediate spaces of time by other acts of piety and devotion —I thought it my duty to spend some part of the day, in reading to and instructing my family: and such time I esteemed spent in a way more acceptable to God, than if I had retired to my own private devotions.

"This was the beginning of my present practice. Other people's coming and joining with us was merely accidental. One lad told his parents. They first desired to be admitted; then others that heard of it begged leave also: so our company increased to about thirty; and it seldom exceeded forty last winter . . . "

" . . . I resolved to begin with my own children; in which I observe the following method; I take such a portion of time as I can spare every night to discourse with each child apart. On Monday, I talk with Molly; on Tuesday, with Hetty; Wednesday, with Nancy; Thursday, with Jacky; Friday, with Patty; Saturday, with Charles; and with Emily and Suky together on Sunday."

Jacky must have been the famous John Wesley, then eight years of age, the fifteenth child of Samuel and Susannah Wesley. They had nineteen children, thirteen of whom succumbed early. Here we have a glimpse of the excessive infant mortality characteristic of the eighteenth century. Infants died readily. This stark fact colored the prevailing philosophy of life and death, and moulded the attitude of parents. In the devout

there was an omnipresent sense of the hereafter and a solicitude over the fate of the souls of their children. However we may judge the pedagogy of Susannah Wesley, we should charitably recall the solemn imaginings of Heaven and Hell which gave direction to her methods and firmness to her governing.

Let her speak for herself. Her son had requested an outline summarizing "How the Wesleys were Brot up." He was anxious to help others with the wisdom of his mother, all the more perhaps because he himself was unhappily married and never had children.[2] In the year of Washington's birth (1732) she wrote to John Wesley as follows:

"*Dear Son,*—According to your desire, I have collected the principal rules I observed in educating my family; which I now send you as they occurred to my mind, . . .

"The children were always put into a regular method of living, in such things as they were capable of, from their birth; as in dressing, undressing, changing their linen, etc. The first quarter commonly passes in sleep. After that, they were, if possible, laid into their cradles awake, and rocked to sleep; and so they were

[2] But he was criticized on this very account for his effort to instruct parents. In April 1768 he wrote in his Journal: "In the evening and the following morning I brought strange things to the ears of many in Manchester, concerning the government of their families, and the education of their children. But some still made that very silly answer, 'O, he has no children of his own!' Neither had St. Paul, nor (that we know) any of the Apostles. What then? Were they therefore unable to instruct parents? Not so. They were able to instruct every one that had a soul to be saved."

kept rocking, till it was time for them to awake. This was done to bring them to a regular course of sleeping; which at first was three hours in the morning, and then in the afternoon; afterward two hours, till they needed none at all. . . . "

Except for the sleeping regimen all this is quite in harmony with present day standards. The modern nursery school insists upon the practicability and the importance of early habits of self-help. Indeed we may be sure from later citations from Mrs. Wesley's letter, that she instilled these habits in her infants even before they had reached ordinary nursery school age. Rocking the baby to sleep, we fear, has not altogether died out. We have found on the market an electric motor agitator which will accomplish this rocking for the mother, who simply inserts the plug and goes on to other duties! Even so the Wesley children acquired independent sleeping habits as they grew older. At six o'clock, as soon as family prayers were over, they had their supper, at seven the maid washed them, "And got them all to bed by eight; at which time she left them in their several rooms awake; for there was no such thing allowed of in our house, as sitting by a child till it fell asleep."

Recent educational literature has stressed the importance of proper eating habits in young children. This is a field of training easily neglected or ignored even by the modern mother. Susannah Wesley recognized the

importance of the subject and devoted three paragraphs of her letter to concrete specifications as follows:

"As soon as they were grown pretty strong, they were confined to three meals a day. At dinner their little tables and chairs were set by ours, where they could be overlooked; and they were suffered to eat and drink (small beer) as much as they would; but not to call for anything. If they wanted aught, they used to whisper to the maid which attended to them, who came and spake to me; and as soon as they could handle a knife and fork, they were set to our table. They were never suffered to choose their meat, but always made to eat such things as were provided for the family.

"Mornings they had always spoon-meat; sometimes at nights. But whatever they had, they were never permitted to eat, at those meals, of more than one thing, and of that sparingly enough. Drinking or eating between meals was never allowed, unless in case of sickness; which seldom happened. Nor were they suffered to go into the kitchen to ask anything of the servants, when they were at meat; if it was known they did, they were certainly beat, and the servants severely reprimanded.

"They were so constantly used to eat and drink what was given them, that when any of them was ill, there was no difficulty in making them take the most unpleasant medicine; for they durst not refuse it, though some of them would presently throw it up. This I mention to

show that a person may be taught to take anything, though it never be so much against his stomach."

From these statements it is quite apparent that Susannah Wesley believed in what is nowadays psychologically called "conditioning." She had an almost immoderate faith in the teachability of the young child. Her pedagogical firmness was fortified by this faith, and she entertained no compunctions against physical chastisement. She spared not the rod even for the tender age of infancy. The most amazing passage in her testimony is that which relates how she disciplined her very babies to subdue their crying.

"When turned a year old (and some before), they were taught to fear the rod, and to cry softly; by which means they escaped abundance of correction they might otherwise have had; and that most odious noise of the crying of children was rarely heard in the house; but the family usually lived in as much quietness as if there had not been a child among them."

The crying of infants has been often enough stilled by the sheer indulgence of parents; but how this eighteenth century mother softened the intensity of the crying by the sting and the threat of the ferrule it is difficult to picture. From a purely technological standpoint more detail as to her method would be curiously interesting. Perhaps it is more significant of her attitude

that crying in general should be set down as "that most odious noise." We know little enough in regard to the causes and control of crying in infants,[3] but we are persuaded that it has a positive importance which lies in the child's own well-being.

Susannah Wesley had, for her day, an unusual perception of the educational possibilities of infancy and early childhood. She regarded the cradle as well as the school as a place of learning and so, in her quaint phrase, her infants were systematically taught "before they could well speak or go." All of them were taught to read at the age of five years, "except Kezzy, in whose case I was overruled; and she was more years learning than any of the rest had been months." "One day was allowed the child wherein to learn its letters; and each of them did in that time know all its letters, great and small, except Molly and Nancy who were a day and a half before they knew them perfectly . . . " "And it is almost incredible, what a child may be taught in a quarter of a year, by a vigorous application, if it have but a tolerable capacity, and good health. Everyone of these [her children], Kezzy excepted, could read better in that time, than the most of women can do as long as they live."

[3] The problem of the crying of infants cropped up in the controversies over infant damnation. Pelagius who denied the reality of hereditary guilt thought, however, that baptism was necessary to wash away the guilt of the pettishness of the child. St. Augustine who was a trenchant exponent of the transmission of guilt met this particular argument by declaring that "the crying of a baby is not sinful, and therefore does not deserve eternal damnation." Lecky, W. E. H., *History of the Rise and Influence of the Spirit of Rationalism in Europe,* Vol. I, p. 361.

So bent on early training was the mother that she taught the Lord's prayer to her children as soon as they could speak. A short prayer for their parents, some collects, some Scripture, and a short catechism were added later, "as their memories could bear."

"They were very early made to distinguish the Sabbath from other days, before they could well speak or go. They were as soon taught to be still at family prayers, and to ask a blessing immediately after, which they used to do by signes, before they could kneel or speak."

All this indicates an extreme earliness of education. The infantile accomplishments themselves are perhaps less noteworthy than the fact that Susannah Wesley should have deliberately chosen to instill these particular acts so early.

There is no absolute mystery in the fact that this brood of young Wesleyans could ask a blessing by gesture, even before they had fully assumed erect posture, or had acquired a kneeling one. Ordinary infants nine and ten months of age can be taught salutations. Many a baby has learned to wave Bye! Bye! before he could either speak or go. The devotional participations of the Wesley children were highly conditioned responses, resting on sheer habituation and disciplinary training. Even the distinction between the holy Sabbath and the profane week days, made apparently at the age of one year in the Wesley household, must have been a humble psycho-motor reflex, a simple conditioned, redintegra-

tive process, based upon an environmental cue! It requires a mental age of about six years to make a consistent distinction between morning and afternoon (in answer to the question, "Is it morning or afternoon?"). The rational question "Is it weekday or Sabbath?" requires a comparable order of intelligence.

It may well be that the success of Mrs. Wesley's methods was, however, somewhat assisted by a natural precocity in her charges. She, herself, saw the individual differences in the learning of reading. Kezzy was obviously the slowest. Molly and Nancy were a whole day and a half before they knew their letters perfectly, while Samuel "learned the alphabet in a few hours. He was five years old on February 10; the next day he began to learn, and as soon as he knew the letters, began at the first chapter of Genesis. He was taught to spell the first verse, then to read it over and over till he could read it off-hand without any hesitation, so on to the second &c., till he took ten verses for a lesson, which he quickly did. Easter fell low that year, and by Whitsuntide he could read a chapter very well; for he read continually, and had such a prodigious memory, that I cannot remember ever to have told him the same word twice.

"What was stranger, any word he had learned in his lesson, he knew, wherever he saw it, either in his Bible, or any other book, by which means he learned very soon to read an English author well."

These observations suggest that Samuel was indeed precocious. He became an able preacher, and was the

father of Charles Wesley who played the organ at the age of three years and composed the oratorio of Ruth at the age of eight years.

Susannah Wesley drew up a quaint list of eight by-laws which she observed in her educational program. They reflect peculiarities of custom and outlook which are strangely antiquated, mixed with points of view that would pass as modern. Briefly these by-laws may be summarized as follows:

1. "That whoever was charged with a fault, of which they were guilty, if they would ingenuously confess it, and promise to amend, should not be beaten . . .

2. "That no sinful action, as lying, pilfering, playing at Church, or on the Lord's day, disobedience, quarrelling, &c., should ever pass unpunished.

3. "That no child should ever be chid, or beat twice for the same fault; and that if they amended, they should never be upbraided with it afterwards.

4. "That every signal act of obedience, especially when it crossed upon their own inclinations, should be always commended, and frequently rewarded, according to the merits of the case.

5. "That if ever any child performed an act of obedience, or did anything with intention to please, though the performance was not well, yet the obedience and intention should be kindly accepted; and the child with sweetness directed how to do better for the future.

6. "That propriety be inviolably preserved, and none

suffered to invade the property of another in the smallest matter, though it were but the value of a farthing, or a pin . . .

7. "That promises be strictly observed; and a gift once bestowed, and so the right passed away from the donor, be not resumed . . .

8. "That no girl be taught to work till she can read very well; and then that she be kept to her work with the same application, and for the same time, that she was held to in reading. This rule also is much to be observed; for the putting children to learn sewing before they can read perfectly, is the very reason why so few women can read fit to be heard, and never to be well understood."

This concluding by-law, better than a lengthy exposition, discloses the change of status that has come to women as well as children.[4] Taken as a whole these eighteenth century educational by-laws present a significant juxtaposition of severity and of gentleness. It is not surprising that Susannah Wesley has been characterized by different writers in contradictory terms. "She was a tender mother who won the respect and affection of her children." "She was a stern, forbidding, an almost unfeeling parent."

[4] Susannah Wesley was herself somewhat self-conscious of her feminist tendencies. In the letter to her husband she explicitly recognizes his superior responsibility for the children's education, but cautiously adds,

"I cannot conceive, why any should reflect upon you, because your wife endeavors to draw people to church, and to restrain them from profaning the Lord's day, by reading to them, and other persuasions. For my part I value

In a paradoxical way, perhaps, Susannah Wesley was all of these things as the mistress of her crowded household. Doubtless she loved her young children, but, as a pious mother, her underlying attitude was one of austere stewardship. She lived in an age when theology was dominated by a sense of sin and of Satan, when even the belief in witchcraft had not yet disappeared. (John Wesley, himself, as late as 1768 protested that "The giving up of witchcraft was in effect giving up the Bible.")[5] The ameliorating influences of modern democratic and scientific thought still lay in the future. Ideas of hereditary guilt and of exclusive salvation held sufficient sway to distort and darken the views which parents entertained of their own infants. We cannot do justice to the domestic pedagogy of the eighteenth century unless we strictly remind ourselves that the saving of children from the agonies of hell was a major preoccupation of parents. It was this that made Susannah Wesley implacable, and made her write as follows:

no censure upon this account. I have long since shook hands with the world.

"As to its looking particular (peculiar), I grant it does. And so does almost anything that is serious, or that may any advance the glory of God, or the salvation of souls . . .

"But there is one thing about which I am much dissatisfied; that is their being present at family prayers. I do not speak of any concern I am under, barely because so many are present, for those who have the honour of speaking to the Great and Holy God, need not be ashamed to speak before the whole world; but because of my sex, I doubt if it be proper for me to present the prayers of the people to God . . . "

[5] " . . . I owe them (the skeptics of the Bible) no such service. I take knowledge that these are at the bottom of the outcry which has been raised, and with such insolence spread through the land in direct opposition, not only to the Bible, but to the suffrage of the wisest and best of men in all ages and nations. They well know (whether Christians know it or not) that the giving up of Witchcraft is in effect giving up the Bible."

"I insist upon conquering the will of children betimes, because this is the only strong and rational foundation of a religious education, without which both precept and example will be ineffectual. But when this is thoroughly done, then a child is capable of being governed by the reason and piety of its parents, till its own understanding comes to maturity, and the principles of religion have taken root in the mind."

"Whenever a child is corrected, it must be conquered; and this will be no hard matter to do, if it be not grown headstrong by too much indulgence. And when the will of a child is totally subdued, and it is brought to revere and stand in awe of the parents, then a great many childish follies and inadvertencies may be passed by. Some should be overlooked and taken no notice of, and others mildly reproved; but no wilful transgression ought ever to be forgiven children, without chastisement, less or more, as the nature and circumstances of the offence require."

"I cannot yet dismiss this subject. As self-will is the root of all sin and misery, so whatever cherishes this in children insures their after-wretchedness and irreligion; whatever checks and mortifies it promotes their future happiness and piety. This is still more evident, if we further consider, that religion is nothing else than doing the will of God, and not our own: that the one grand impediment to our temporal and eternal happiness being this self-will, no indulgences of it can be

trivial, no denial unprofitable. Heaven or hell depends on this alone. So that the parent who studies to subdue it in his child, works together with God in the renewing and saving a soul. The parent who indulges it does the devil's work, makes religion impracticable, salvation unattainable; and does all that in him lies to damn his child, soul and body forever."

There can be no doubt that Mrs. Wesley practiced what here she so frankly preaches to her preacher son. This doctrine was in effect the essence of her educational psychology. She did not count herself cruel. She would have called indulgence cruelty; and she took unmistakable satisfaction in the "subjection" of her growing family. Accordingly she writes, "For some years we went on very well. Never were children in better order. Never were children better disposed to piety, or in more subjection to their parents; till that fatal dispersion of them, after the fire, into several families." [6]

The educational philosophy of Susannah Wesley is

[6] What happened after the fatal dispersion by the fire is interestingly related in Mrs. Wesley's letter:

" . . . In those [several families] they were left at full liberty to converse with servants; which before they had always been restrained from; and to run abroad, and play with any children, good or bad. They soon learned to neglect a strict observation of the Sabbath, and got knowledge of several songs and bad things, which before they had no notion of. The civil behavior which made them admired, when at home, by all which saw them, was, in great measure, lost; and a clownish accent, and many rude ways, were learned, which were not reformed without some difficulty.

"When the house was rebuilt, and the children all brought home, we entered upon a strict reform; and . . . "

most strikingly summed up in the passage which I have italicized below:

"In order to form the minds of children, the first thing to be done is to conquer their will, and bring them to an obedient temper. To inform the understanding is a work of time, and must with children proceed by slow degrees as they are able to bear it: but the subjecting the will is a thing which must be done at once; and the sooner the better."

Through this transparent declaration we catch a fundamental contrast between eighteenth and twentieth century child psychology, a significant difference in the parent-child relationship of the two periods. Now we regard the personality of a child as an indivisible unit, and have achieved the concept of growth. The older interpretations of the child imputed to him a will, separate from his general psychology, an almost demoniacal self-will born with his original sin and in no sense the natural product of individual development. Here lies a distinction which is far from academic. If the child of today enjoys a fundamental advantage in his educational status, it is because he is regarded as a progressively changing personality subject to the natural laws of developmental psychology rather than of a dogmatic theology. In a sense the speculative theological systems had to serve as a temporary substitute for a more disinterested and enlightened outlook. The developmental point of view, itself, has been the product of slow growth through the last two centuries. It has

come not by sudden dispensation but almost like a thief at night. Biological science, the vast doctrine of evolution, the industrial revolution, and the diffusion of democratic institutions have conspired subtly to bring about a pervasive change in "the climate of opinion"—a genuine change in the temper of the age which benefits the infants who are born into it.

It is not that we have so much more knowledge at our disposal than did Susannah Wesley, but there is a new spirit of rationalism, a new interest in truth for its own sake, which makes for increased liberality in our methods of child training. In the same subtle way the Wesleys came under the influence of the cultural atmosphere of their own generation. It is scarcely necessary to add that we are not permitted untrammeled satisfaction in our advantages over the eighteenth century. Two hundred years from now the commentator will find amusing absurdities, not to say hardships, in our current child training codes, which are modern but sufficient only for their day.

CHAPTER III

CONCEPTS OF CHILD GROWTH IN THE NINETEENTH CENTURY

GENETIC AND SECULAR TRENDS IN THE INTERPRETATION OF CHILDHOOD

THE nineteenth century has sometimes been called Darwin's century. Not without some justification, for Darwin contributed profoundly to the developmental outlook upon nature and man, which was one of the most significant achievements of his century.

Darwin was not, of course, alone responsible for the genetic interpretations which came to prevail in all departments of thought. Buffon, Lamarck, Goethe, Lyell, and Ralph Waldo Emerson had given expression to evolutionary concepts before the publication of *The Origin of Species* in 1859. In the field of social theory the idea of progress or of continual improvability in the lot of mankind began to take definite form in the eighteenth century. This idea, now so freely assumed, was novel when Abbé de Saint-Pierre formulated it. It was foreign to the ancients, to the early Christians, and to the mediaeval theologians. Beard calls it the most dynamic social theory ever shaped in the history of thought. "Indeed not until the modern age could philosophy

throw off the creed of the baffled earthly life, with its resignation to the brutal yoke of untamed nature."[1]

But static concepts of life did not vanish in a twinkling even with the rising pressure of the industrial revolution and the solvent effect of natural science. Particularly in the emotionalized realm of the parent-child relationships, the old concepts of fixity and fate retained their vitality. The doctrine of human depravity proved peculiarly tenacious. The attainment of a genetic attitude toward problems of child development was painful and difficult.

The educational reformers of the early nineteenth century accordingly write with protesting emphasis on the natural or potential goodness of the young child. Robert Owen had a burning faith in the perfectability of both individual and society, which led, as we shall see in a later chapter, to pioneer nursery and infant schools. Froebel had an optimistic philosophy of human development, supported by a study of plants and crystals, which led to the founding of the kindergarten. Pestalozzi had a deep trust in child training which made him exalt the home as an educational agency. He became almost a pamphleteering propagandist on the subject and his bibliography contains many titles on preschool and parental education. In 1818 he printed *An Address to the British Public,* soliciting them to aid, by subscription, his plan of preparing schoolmasters and

[1] Beard, C. A. and M. R. *The Rise of American Civilization,* Vol. I, p. 444. Macmillan, New York. 1930.

schoolmistresses for the people, "that mankind may in time receive the first principles of intellectual instruction from their mothers." His very last speech, made a few months before his death (1827) bore the title, *The Simplest Methods whereby to Educate a Child at Home from the Cradle to its Sixth Year.*

Madame Necker de Saussure had a similar zeal for the possibilities of early education. She is an interesting figure, historically, and represents a striking advance beyond the doctrines of Susannah Wesley. Madame de Saussure made one of the first deliberate studies of the infant's mental development and wrote two volumes on progressive education (1835–1838). She was also perhaps the first woman earnestly to exhort young mothers "to keep an exact journal" of the development of their children. But "it is necessary that a woman should have a pliant spirit to follow these changeable beings in their perpetual variations; everything with them is so fugitive and vague, that a sort of vertigo would soon seize upon the observer who should endeavor to portray all their varying features."

De Saussure's writings present a quaint mixture of pietism, animism, and behaviorism; but their spirit, for her epoch, is surprisingly modern and genetic. "What can escape," she exclaims, "the spirit of investigation which distinguishes our age? . . . People fear they shall hazard something in attempting new experiments. . . . We hazard something also in our opinions." "My design is to represent the progress of life and the feel-

ings which animate us at every period of it. . . . It is the history of the soul, especially, that I propose to trace." She begins with "the mysterious moment that plunges the soul into the vortex of life." "Nothing is apparently so frivolous and trifling as details concerning little children, as the whole mass of facts presented by that age; nothing, on the contrary, is so great, so difficult, or so obscure, as the study of the faculties of the soul." Many of the observations on sensory-motor development are objective in viewpoint and terminology; but the comments reflect old as well as new philosophical attitudes. For example, on the same page we find these two passages in interesting juxtaposition:

"If it was the design of the Creator in respect to man that the immortal spirit should receive a strong impulse from the present life, the means of making him pursue the most extended course of development was to place him in the lowest degree at its beginning. Hence his state of privation and ignorance in infancy."

"Preoccupied with considering what is wanting in the child, we forget the liberality of nature with respect to him. We do not observe that the order of development made necessary by his ignorance is the most advantageous to morality as well as to the progress of his reason."

It is almost fair to say that this last observation presents a genetic insight which is in advance of the educational theory and practice of our own day. And it accentuates the pathetic, though almost inescapable limitations, of Susannah Wesley's doctrine of the human will. It rep-

resents the humanizing recognition of the principles of growth, which alone could dissipate the black shadows of Jonathan Edwards' interpretations of human destiny.

Even the judicious and erudite historian, Lecky, has called Edwards' book on *Original Sin* one of the darkest books that ever proceeded from the pen of man. Although it would be easy to overstate the effect of Jonathan Edwards on the everyday life of eighteenth and nineteenth century children, it is certain that for generations the attitudes of parents were influenced by his somber theology. The imperfections and "pettishness" of the human infant have always constituted a problem for theological rationalization; and with the advance of the nineteenth century, ameliorating concepts, more appropriate to the new temper, came into systematic expression. But not without much resistance from the static ideology of the past, and not without much intellectual perplexity.

The rise of a genetic philosophy in the theological sphere is clearly reflected in the career of Horace Bushnell, also a New England divine and public spirited citizen, whose life spanned the first three quarters of the nineteenth century. Bushnell wrote his discourses on *Christian Nurture* between 1846 and 1861; discourses of which he rightly and naïvely remarked "under the fortune that befell them they became a little historical."

For our present discussion these discourses indeed have historical significance. Their very titles are reminiscent of the intricate religious, secular, educational,

and genetic psychologies which the author valiantly sought to reconcile. Dean Charles R. Brown gives him the distinction of being "the first New England theologian to admit into his scheme of thought the modern sense of nature."

The table of contents of his volume on *Christian Nurture,* like a flash-back of a cinema, revives the past with vivid suggestiveness. There were sixteen discourses in all:

Part One, *The Doctrine.* 1. What Christian Nurture is. 2. What Christian Nurture is (continued). 3. The Ostrich Nurture. 4. The Organic Unity of the Family. 5. Infant Baptism, how Developed. 6. Apostolic Authority of Infant Baptism. 7. Church Membership of Children. 8. The Out-populating Power of the Christian Stock.

Part Two, *The Mode.* 1. When and Where the Nurture Begins. 2. Parental Qualifications. 3. Physical Nurture, to be a Means of Grace. 4. The Treatment that Discourages Piety. 5. Family Government. 6. Plays, and Pastimes, Holidays and Sundays. 7. The Christian Teaching of Children. 8. Family Prayers.

The very term *Christian Nurture* suggests a genetic point of view, and we are assured that Bushnell did oppose the feverish, abruptive revivalism of the day which ignored the laws of germination and growth. Yet he had to reckon with inherited conceptions and his writings represent an evident effort to bring ideas of development into harmony with scriptural and theologi-

cal doctrine. He softened the idea of original sin,[2] imputing somewhat more to the parents and somewhat less to the child. He made much of growth through favoring atmosphere, so that "Christian piety, being oftener a habit in the soul than a conquest over it, will be as much more respectable and consistent as it is earlier in birth and closer to nature." "We have been expecting to thrive too much by conquest, and too little by growth . . . "

"The spirit of the house is in the members by nurture, not by teaching, not by any attempt to communicate the same, but because it is in the air the children breathe . . . " "They are connected by an organic unity, not with your instructions, but with your life. And your life is more powerful than your instructions can be." "The supposition that the child becomes, at some certain moment, a complete moral agent, which a moment before he was not, is clumsy, and has no agreement with observation."

"The declarations of Scripture, and the laws of physiology, I have already intimated, compel the belief that a child's nature is somewhat depravated by descent from parents, who are under the corrupting effects of sin. But this, taken as a question relating to the mere *punctum temporis,* or precise point of birth, is not a question of any so grave import as is generally supposed; for the

[2] The hardy and stern survival of the ancient notion of infant damnation in a middle-west village of 1850 is pictured in a short drama entitled *Immersion* by Maude Humphrey, printed in Yale One-Act Plays (Samuel French, New York, 1930). This was one of the first publicly staged plays produced by The Department of Drama, Yale University, then at 52 Hillhouse Avenue. An infant (that is an effigy of one) was the focal point of the play.

child, after birth, is still within the matrix of the parental life, and will be, more or less, for many years. And the parental life will be more flowing into him all that time, just as naturally, and by a law as truly organic, as when the sap of the trunk flows into a limb . . ." Bushnell claimed much for early environment.

"I have no scales to measure quantities of effect in this matter of early training, but I may be allowed to express my solemn conviction, that more, as a general fact, is done, or lost by neglect of doing, on a child's immortality, in the first three years of his life, than in all his years of discipline afterwards. And I name this particular time, or date, that I may not be supposed to lay the chief stress of duty and care on the latter part of what I have called the age of impressions; which, as it is a matter somewhat indefinite, may be taken to cover the space of three or four times this number of years; the development of language, and of moral ideas being only partially accomplished, in most cases, for so long a time. Let every Christian father and mother understand, when their child is three years old, that they have done more than half of all they will ever do for his character. . . . "

In retrospect it is clear that Bushnell's writings exercised much influence to accomplish a transition from the old to the more modern, secular outlook. His attitude was in many ways a genetic one. But he had to confess to a deep aversion for simians and for dolls! He was curiously sensitive to all forms of human caricature. His characterization of play reflects the intellectual

difficulties with which he wrestled; and the transitional significance of his interpretations.

"Just as God has made hunger in the body to represent hunger in the soul, thirst in the body to represent thirst in the soul, what is sweet, bitter, sour in the taste to represent what is sweet, bitter, sour in the soul's feeling, lameness to represent the hobbling of false principle, the fierce combustion of heat to represent the rage of angry passion, all things natural to represent all things spiritual, so he prepares, at the very beginning of our life, in the free self-impulsion of play, that which is to foreshadow the glorious liberty of the soul's ripe order and attainment in good."

With the closing decades of the nineteenth century the philosophy of child life was increasingly permeated by secular, biological modes of thinking. Darwin's impress became more and more apparent. Not only through his publications but by personal correspondence he influenced his contemporaries. Near the close of his life, with characteristic courtesy he addressed a lengthy letter (in 1881) to Mrs. Emily Talbot of Boston, dealing with the subject of infant psychology on which he had published in *Mind* a few years earlier. The letter opens as follows:

"Dear Madam: In response to your wish I have much pleasure in expressing an interest which I feel in your proposed investigation on the mental and bodily development of infants. Very little is at present accurately

known on this subject and I believe that isolated observations will add but little to our knowledge; whereas tabulated results from a very large number of observations, systematically made, would probably throw much light on the sequence and period of development of the several faculties."

The letter is historically interesting for it reveals a rather well defined child study movement in America as early as 1880, when Mrs. Talbot is enthusiastic Secretary of the Education Department of The American Social Science Association. W. T. Harris is Chairman and has declared that "Education in the sense that social science uses the term includes the whole life of man in so far as the different institutions of human life react upon the individual and educate him." With secretarial energy Mrs. Talbot has already drawn up an itemized register for recording observations of infant development, and has circularized it through newspapers reaching tens of thousands of readers. "We have been made familiar," she writes, "with the habits of plants and animals from the careful investigations which have from time to time been published, the intelligence of animals even coming in for a due measure of attention. . . . Recently some educators in this country have been thinking that to study the natural development of a single child is worth more than a Noah's Ark full of animals!"

The dissemination of the register brought a wide correspondence to the secretary who writes, "It is too soon

to communicate results; too soon to formulate any theory of the physical and mental development of children; but we are already in possession of interesting facts. We have hundreds of mothers engaged, many of whom have been trained in our universities and colleges to make investigations with accuracy and to weigh evidence with candor." The secretary's report[3] as early as 1882 printed a bibliography of publications on child study including those by Preyer, Perez, Schultz and Egger. American soil was receptive for a child study movement, even in the elegant eighties.

In the gay nineties of the nineteenth century the interest in child psychology reached popular and nationwide proportions. America became the scene of a child study movement which embraced hamlets and cities; schoolteachers, parents, and university professors; parlors and laboratories. G. Stanley Hall was the leader of this movement. He was a pupil of Wundt, but still more, he was the exponent of Darwin in the interpretation of mental development in the child and the race. It is easy to smile at the errors and miscarriages of this late Victorian child-study movement; but in spite of its shortcomings, it accomplished an extensive humanization of outlook. It opposed the same old tenacious doctrines of child depravity and adult prerogatives which Charles

[3] The report included notes from a diary of the development of Bronson Alcott's eldest child, dating back to March 16, 1831. The entry for the 30th day of life is too interesting to restrain. The philosopher father writes: "I am unable to discover that she distinguishes parts from generals as yet or that recollection has dawned upon her, by which she discriminates one object from another."

Dickens combated by fiction; but used the methods of popularized and of technical science. A simple investigation in 1880 made by G. Stanley Hall with the aid of kindergartners, entitled *The Contents of Children's Minds on Entering School,* was the forerunner of a fast expanding literature on child nature. Scores of studies rapidly appeared on almost every phase of child life, physical, motor, intellectual, moral, aesthetic. These studies were the products of a socialized interest in child life, on the one hand, and of scientific inquisitiveness, on the other. Much of this literature has proved impermanent; much is already sicklied o'er with a caste of quaintness; but its historical influence is certain. America has become a leading country in child research. With the close of the nineteenth century there had come a change in the temper of the people, a new genetic rationalism which made them hospitable to further advances in the field of parental and preschool education.

CHAPTER IV

OLD CONCEPTS OF CHILD GUIDANCE

Prints and Precepts from a Past Generation

It is always difficult to reconstruct the mental attitudes of a past generation. In the previous chapter there is ample evidence that Puritanic concepts of childhood determined the domestic philosophy of parents far into the nineteenth century. It is certain that in innumerable instances this philosophy yielded distressing and tragic consequences both for the children and their elders. The very structure of the philosophy tended toward misguided dogmatism and authoritarianism. It rested with heavy weight on parent and child alike. The tolerant and constructive temper of the more enlightened ideas of child guidance today represents a unique advance in our culture.

It would be easy, however, to exaggerate the gloomy aspects of the domestic economy of the past generations. We may be sure that the sober and forbidding philosophies did not completely suppress a regard for the genial expressions of childhood. And although we can not overlook the terrifying sermons to which the children were subjected, we may not build our image of these days altogether from those sermons.

To balance the picture we turn in this and the following chapter, to lithographs and engravings, which help to restore the psychology of parents of the middle decades of the nineteenth century. This was the prephotographic period, before the illustrated newspaper, when the lithographs, particularly of N. Currier and later of Currier and Ives, were in their ascendancy.

It fell to the lithographers to record the events of their day, and to feed the interests of their clients with cheap, topical prints. These pictures, often colored, are not always gems of art, but they are genuine tokens of their times. They were paid for by poor and rich, were hung and tacked on walls, became objects of comment, of friendly possession, of envy, hope, and symbolic thinking. Sometimes they served as substitutes for photographs. I have come upon one well-preserved print entitled *Little Brothers;* beneath the glass under each boy is a curl of flaxen hair which for the fond original owner helped to identify each lithographic figure with a real child.

A complete catalogue of the prints of Currier and Ives therefore furnishes a sort of panorama of the American scene, particularly for the period from 1830 to 1875; the pictures themselves reflect important details of the daily life, the thoughts, and the sentiments of the times. An analysis of the list of titles shows that scores of prints dealt with the love of home, with children, and the events of family life: "My Boyhood's Home"; "American Homestead"; "The Meadowside Cottage";

"Brother and Sister"; "Father and Child"; "Maternal Happiness"; "Maternal Affection"; "The First Prayer"; "The First Ride"; "The First Step"; "See My New Boots"; "The Cares of a Family"; "Father's Pride"; "The Prize Boy";[1] "Papa's Coming"; "Peek-a-boo"; "The Four Seasons of Life: Season of Joy, Season of Love, Season of Strength, Season of Rest"; "Little Ella"; "Little Emmie"; "Little Fanny"; "Little Harry"; "Little Flora"; "Little Sarah";—these generic portrait prints of boys and girls, too numerous to list, were evidently very popular and were issued and reissued in a constant stream from the lithographic press.

The above list of titles might be much extended. All

[1] It is interesting to note that the date of this print goes back as far as 1857. The term *Prize Boy* was probably used as a generic metaphor and did not represent the winner of a Baby Contest. It should be recalled, however, that as early as 1842 no less a personage than P. T. Barnum inaugurated the first Baby Show in America. He writes in his *Struggles and Triumphs* (two volumes edited by G. S. Bryan; Alfred Knopf, New York. 1927.):
"On several occasions I got up 'baby shows' at which I paid liberal prizes for the finest baby, the fattest baby, the handsomest twins, for triplets, and so on. I always gave several months' notice of these intended shows, and limited the number of babies at each exhibition to one hundred. Long before the appointed time, the list would be full and I have known many a fond mother to weep bitterly because the time for application was closed and she could not have the opportunity to exhibit her beautiful baby. These shows were as popular as they were unique, and while they paid in a financial point of view, my chief object in getting them up was to set the newspapers talking about me, thus giving another blast on the trumpet which I always tried to keep blowing for the Museum. Flower shows, dog shows, poultry shows, and bird shows, were held at intervals in my establishment and in each instance the same end was attained as by the baby shows. I gave prizes in the shape of medals, money, and diplomas and the whole came back to me four-fold in the shape of advertising."

"There was great difficulty, however, in awarding the principal prize of $100 at the baby shows. Every mother thought her own baby the brightest and best, and confidently expected the capital prize.

For where was ever seen the mother
Would give her baby for another?

told the prints made a wide and varied emotional appeal, ranging from genre and humorous to romantic and ideal themes. The bright note was as often struck as the sober. Today the prints often awaken a smile because light and serious elements lie in precarious juxtaposition. *Little Ella,* on page 67, is for the moment at least the very paragon of Sabbath propriety in her feathered cap, cape, and muff. The apparel of children has shown interesting changes.

The print reproduced on page 59 is called *The First Step*. It calls for some study of detail. Note the dog and the bird. The first "step" is an experience which the human infant shares with the young quadruped also watched with maternal solicitude; and shares with the fledgling just flying from the nest.

The print entitled *The Sale of the Pet Lamb* is rich in color and gay in treatment; but not so the two stanzas which accompany it:

And poverty with iron heart has entered the peasant widow's cottage
Her bright group of sunny hearted children may not starve
And yet to buy their nurture she must sell their petted playfellow
The home reared lambkin that they have loved to feed and fed to love!

The mother, babe in arms, a little one by looking with entreaty not to sell
Receives the buyer's price, whose prentice lad waiting to lead their playfellow to death
One chubby boy resists with brave defiance, meanwhile his little brothers round their fondling
Feed it with milk as mild as its own nature and give their last caresses of childish love!

Home was a favorite lithographic theme. It is significant that so many of the most popular pictures of this period deal in a genuine spirit with ideals and sentiments that center about family and child life.

Education was not the motive of the popular topical print of the day. When we turn to the contemporary tracts and tomes which deal with problems of child training the engravings like their accompanying texts frequently take on a grave didactic tone. The pictures reproduced on pages 75 to 85 were selected from a pictorial volume entitled *The Parent's Gift*. It was a collection of about a hundred copper engravings and as many quatrains addressed to the juvenile recipient. The subjects of these engravings and the content of their rhymed homilies carry us into that mixed, benevolent, and sternly moralistic zone through which the concepts of child guidance were then passing.

This volume is by no means the most serious one which might have been selected for consideration. But almost without exception picture and text prove to be homiletic. Even the quatrain on the butterfly is morally impressive!

> Pretty, painted butterfly,
> You are welcome here
> Do not dart away from me,
> You have naught to fear.

When the engravings are classified as to subject matter, we find a significant weighting of the graver themes. Nine of the pictures deal with the stages of human exist-

ence from infancy to tottering age, not omitting *The Dying Mother* and *The Mother's Grave.* Seven of the pictures deal with the passage of time and the succession of the seasons. Eight depict Nature—the heavens, the rainbow, the echo. With a touch of Doré, seven astounding pictures deal with fate and catastrophe —with lightning, volcano, and earthquake (and for some reason these old pictures seem more foreboding than the most thrilling cinema). Seventeen deal in more pastoral mood with animals and flowers; only two or three with the occupations of man. Charity and human handicap are depicted in eight impressive pictures—the little chimney sweep, the lame girl, the blind man, the shackled maniac, orphans and beggar. A dozen pictures deal with the bible and a half dozen more with Sabbath, church, and religion. Seven engravings are righteously and unequivocally concerned with such moral subjects as *The Boy Who Told a Lie, The Dunce, The Truant, Pride, Early Rising, Integrity,* and *Idleness.*

Specimens of these engravings are reproduced because they reflect so faithfully the homiletic temper of child guidance and the naïve faith which this generation placed in precept and exhortation. Engraver and rhymer unite in solemn rebuke:

> O, you idle thoughtless Boys,
> Wasting thus life's early bloom,
> Throwing thus your time away,
> E'en in presence of the tomb.

Preachment was common even in secular treatises. A Father wrote an excellent little geography, *A Book for New Hampshire Children in Familiar Letters* which passed through several editions. The fourth edition (1833) contains thirty letters on the topography, industries, and history of the state; but the two concluding letters consisted respectively of "Advice to Son" and "Advice to Daughter"—advice which ranged from the discussions of virtue, piety, idleness, visiting (or gadding), to fine clothes and arithmetic. The affectionate father ventures to state that "If it were only as fashionable for little girls to study Arithmetick as it is for them to make patch work, I have no doubt they would be fine scholars in it. The secret of all difficulty about Arithmetick is this. It is not thought important for females to know much about it. . . . I consider Arithmetick of great importance to girls as well as boys. . . . Every mistress of a family ought to be able to keep an account of expenses, and to transact her money affairs in a regular manner. If this were generally done, many a poor husband might be saved from going to gaol for debt; and many a poor wife, along with her children, might be preserved from grief and poverty."

Idleness was a fault which received special attention from the guides of youth as well as of children. Rev. John Todd of Amherst wrote a widely circulated guidance treatise, "*The Student's Manual,* designed by specific directions to aid in forming and strengthening the intellectual and moral character and habits of the student."

(S. E. Bridgman and Co., Northampton, Mass., 1854; revised edition 1882.) One chapter dealt with nine thieves of time. Among these were listed sleep, sloth, indolence, visiting, procrastination. "I believe that with other degeneracies of our days, history will prove that late rising is a preëminent one." The author points to the teaching of past history: "In the fourteenth century, the shops of Paris were universally open at four in the morning; now, not till long after seven. Then the King of France dined out at eight o'clock in the morning and retired to his chamber at the same hour in the evening." The author goes on to call attention to a mechanical device new in its day: "Some use a small alarm clock to call them up, and to which they soon acquire a strong attachment, which would be stronger still if it be made to strike up a light and build a fire. The students in Yale and Amherst Colleges have generally the alarm-clock."

This manual of guidance for students was written with earnest regard for practical detail; so the author promptly adds: "After you are once awaked, be sure to use the first consciousness in getting upon the floor. If you allow yourself to parley a single moment, sleep, like an armed man, will probably seize you and your resolution is gone, your hopes are dashed, and your habits destroyed." Pages are devoted to this problem of a "love for the bed, the besetting sin of students, and a sin which soon acquires the strength of a cable."

So much was said on the whole subject of diligence,

that many an adolescent acquired a perplexed and combative attitude against even the simple physiological function of sleep. Although modern science has by no means fully clarified the energy problems of activity, fatigue, and relaxation, it has done much to rationalize an attitude toward work, play, and rest in children. Our knowledge is far from complete, but the hygienic, as opposed to the moralistic outlook upon the problems themselves represents a significant gain in the philosophy of child guidance.

Viewed against a background of purely pious or authoritarian moralizing, the genetic and the psychological approach upon problems of child conduct takes on great importance. It is a cultural advance which demonstrates an interdependence of science and ethics as well as of religion and ethics.

This scientific approach leads to a steadily diminishing confidence in the efficacy of words in the rearing and the guidance of children. The new developmental psychology reveals that character and personality are infinitely more complicated than was formerly thought. They grow from biological stresses and social influences in which words can not play the determining rôle. The protection of the child's mental growth requires a philosophic regard for a multitude of factors; and particularly a respect for the child's own organic though temporary limitations. We are losing the old faith in mere precept and exhortation. The very term guidance suggests that the child must do his own growing.

CHAPTER V

A PICTORIAL CHAPTER

Old and New Pictures of Child Life

"A PICTURE is better than a thousand words". So says an old Chinese proverb. Ancient carvings and paintings, later lithographs and engravings, and modern photographs and cinematographs testify in different ways to the truth of the proverb. In this chapter we venture to put the proverb to a test, suppressing many thousand words.

The pictures assembled here will serve to illustrate the immediately preceding chapter and other chapters which follow. These pictures come from several sources and fall into three groups: (1) Old Lithographs of Family and Child Life; (2) Engravings from an Old Book for Children; (3) Photographs relating to Child Development and Child Guidance.[1]

[1] The lithographs in the original are, mainly, colored Currier and Ives prints. The engravings were in copper, and are culled from a musty volume entitled *The Parent's Gift.* The photographs anticipate subjects which will be treated in subsequent chapters and picture normal young children.

The series of photographs depicting the behavior patterns of an infant at fourteen different age levels, was made in the photographic dome of the laboratory of the Yale Psycho-Clinic. Most of the pictures of the guidance nursery were selected from a recent cinema and sound-film record of the work of the clinic. This talking film, entitled *The Study of Infant Behavior at the Yale Psycho-Clinic,* was made in coöperation with The Western Electric Research Products Inc., of New York.

OLD LITHOGRAPHS OF FAMILY AND CHILD LIFE

The First Step.

The First Care.

A Home In The Country.

The Sale Of The Pet Lamb.

Little Ella.
Little Charley (The Prize Boy)

Little Brothers.
The Little Sisters.

Reading The Scriptures.

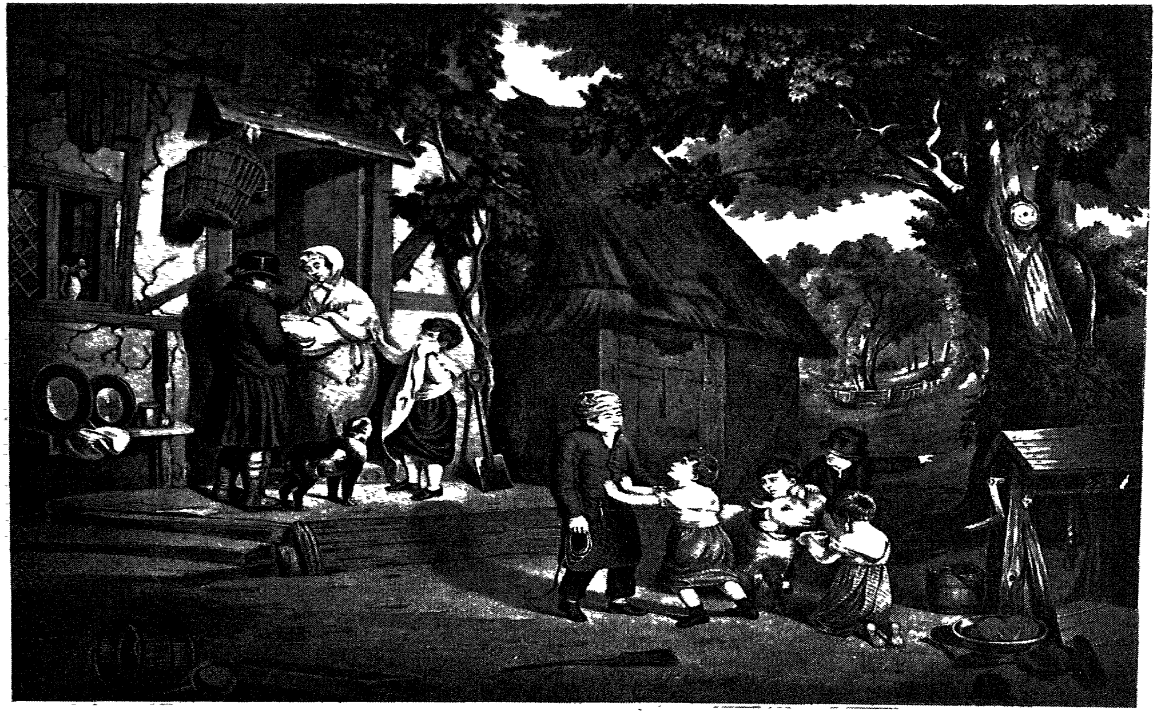
THE FIRST STEP.

THE FIRST CARE.

THE YOUNG MOTHER.

Entered according to Act of Congress in the year 1857 by Currier & Ives in the Clerk's Office of the District Court of the United States for the Southern District of New York.

A HOME IN THE COUNTRY



THE SALE OF THE PET LAMB

LITTLE ELLA.

LITTLE CHARLIE

THE PRICE BOY

GREFFIER STAFFORT EFF.

GREFFIER HUBOLDT EFF.

ILLUS & BUCKLEY, HARTFORD CONN

READING THE SCRIPTURES.

"Search the Scriptures for in them ye think ye have eternal life and they are they which testify of me" John 5.39.

ENGRAVINGS FROM AN OLD BOOK FOR CHILDREN

The Baby.
Lucy Lee.

The School.
The Truant.

The Butterfly.
The Little Chimney Sweep.

Pride
The Boy Who Told A Lie.

Early Rising.
Idleness.

THE BABY

When in his pretty cradle,
He lies in quiet sleep
Tis joy to sit beside him,
A faithful watch to keep.

LUCY LEE.

A little creature trained for heaven
In childhood there she grew,
And sweetly neath affection's smile
That happy childhood flew.

THE SCHOOL

No wonder that you are ashamed
Upon that bench to stand
With dunce's cap upon your head
And switches in your hand.

THE TRUANT

But was your heart at ease?
And were your spirits gay
When leaving books and school
You passed the hours in play?

THE BUTTERFLY.

Pretty painted butterfly,
You are welcome here
Do not dart away from me,
You have nought to fear.

THE LITTLE CHIMNEY-SWEEP.

I have enough to make me weep,
Or else I would not be a sweep,
I'm very young ma'm as you see,
My mother sold me when turn'd three.

PRIDE

Oh Miss Bell with your feathers so flaunting
and gay
Why are you so haughty and vain
That you think every body is charmed with
your looks
To all who observe you is plain.

THE BOY WHO TOLD A LIE.

My naughty boy come here
It grieves me to the heart,
To think a son of mine,
Could act a liars part.

EARLY RISING

First my morning duties
Then tis time to play
Getting up so early
Makes a fine long day.

IDLENESS.

O you idle, thoughtless boys,
Wasting thus life's early bloom,
Throwing thus your time away,
E'en in presence of the tomb.

PHOTOGRAPHS RELATING TO CHILD DEVELOPMENT AND GUIDANCE

The Growth of Infant Behavior

A developmental series of photographs of behavior patterns of one baby at fourteen age levels: 1 week, rotates head; 6 weeks, extends arm in tonic neck reflex; 8 weeks, holds ring without regard; 12 weeks, follows small ball; 16 weeks, stares at cube; 20 weeks, contacts spoon; 24 weeks, prehends cube; 28 weeks, bangs cube; 32 weeks, rakes pellet; 36 weeks, pursues second cube; 40 weeks, inspects bell; 44 weeks, plucks pellet; 48 weeks, recovers cube from under cup; 52 weeks, scribbles.

Supervision of Child Development

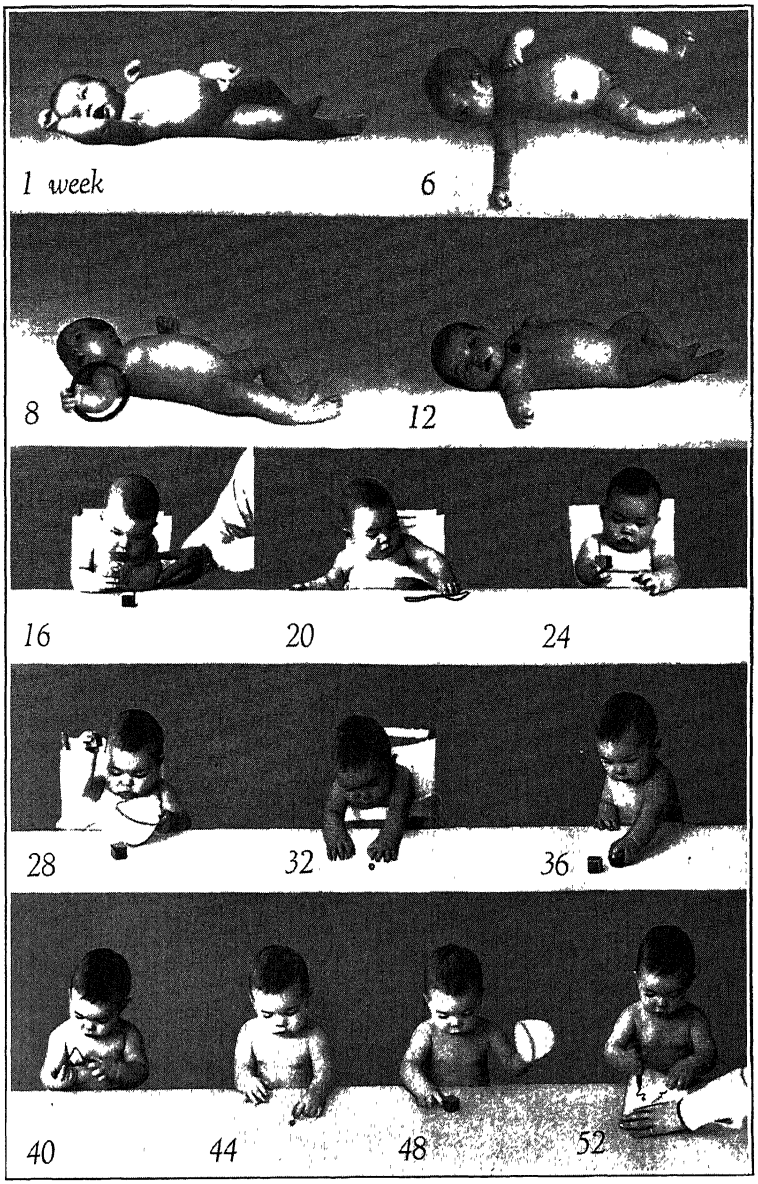
Baby in the weighing pan. Recording the baby's weight. Physical measurement of growth. A psychological examination. Preschool child, guidance worker and parent.

A Guidance Nursery

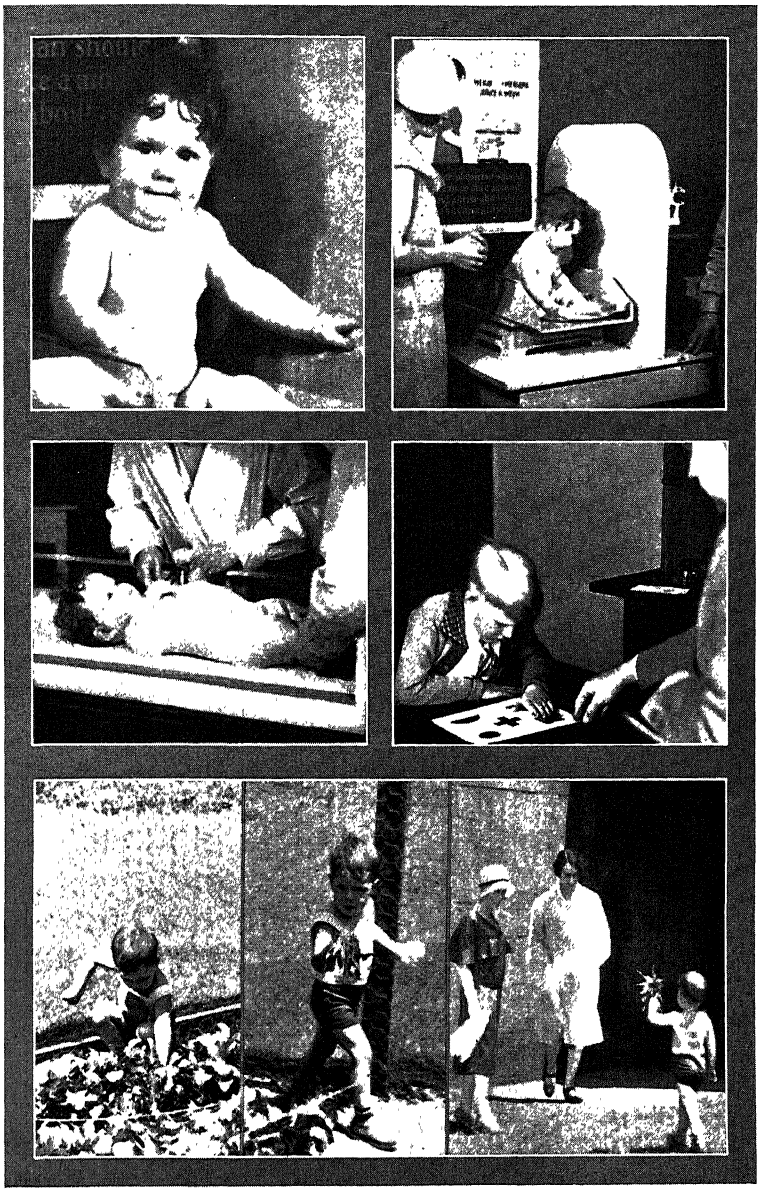
Outdoor play. Indoor play pond. Sand-box. Mid-morning luncheon. Nursery Interior. One-way-vision screen for parent and student observers.

Arrangements of the Yale Psycho-Clinic Guidance Nursery

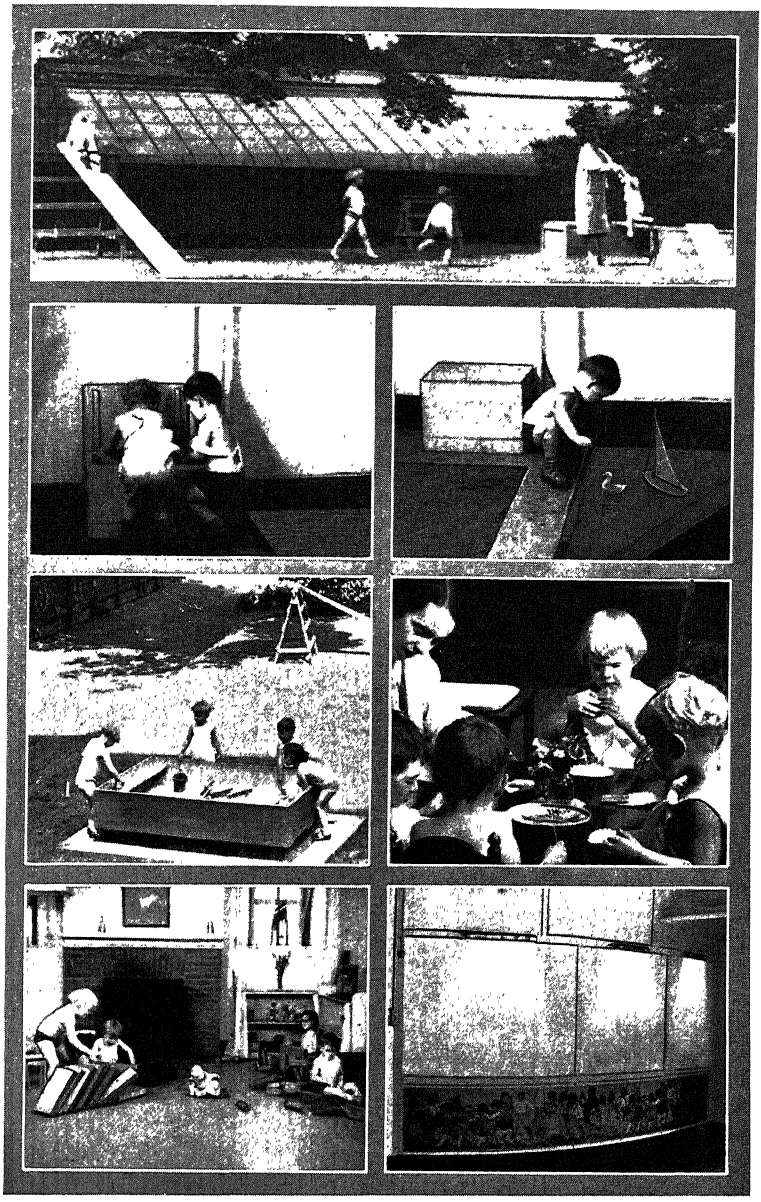
Showing one-way-vision screen, play pond, and other equipment.



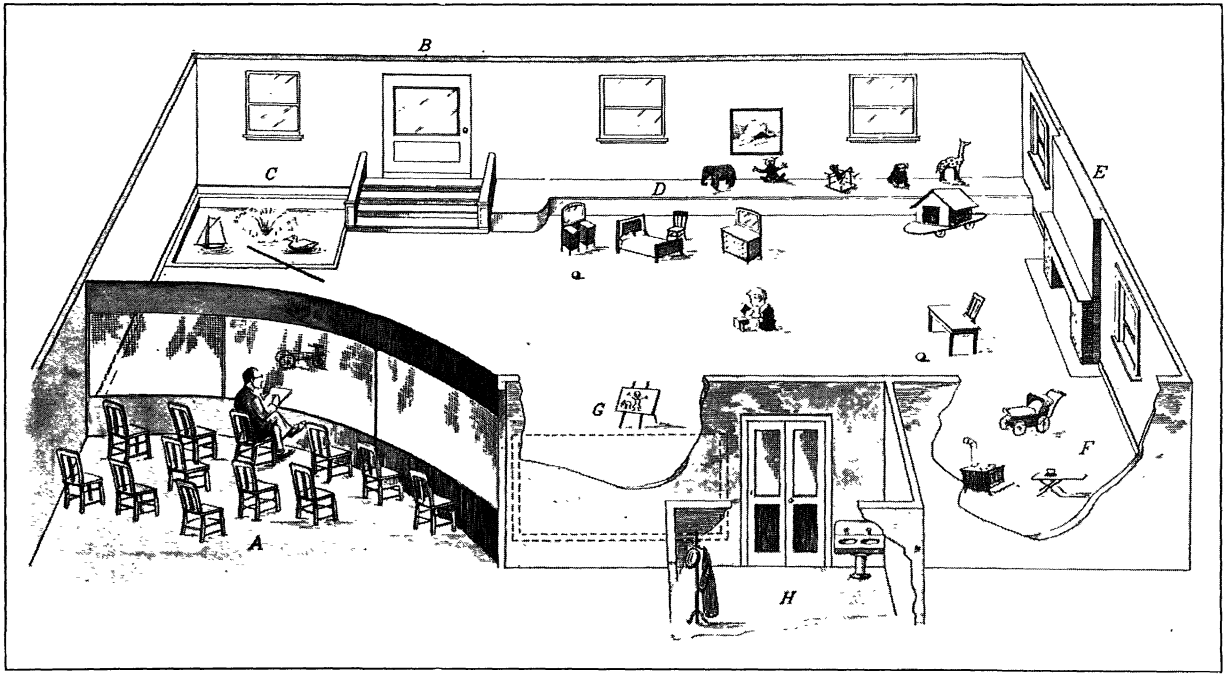
THE GROWTH OF INFANT BEHAVIOR



SUPERVISION OF CHILD DEVELOPMENT



A Guidance Nursery



Arrangements of The Guidance Nursery at The Yale Psycho-Clinic, showing (A) the observation alcove with one-way-vision screen for parents and other observers; (C) indoor play pond; (G) drawing easel; (H) washroom with one-way-vision screen door.

CHAPTER VI

THE NURSERY SCHOOL MOVEMENT OF THE TWENTIETH CENTURY

NEW TRENDS IN PRESCHOOL AND PARENTAL EDUCATION

A NEW social device is taking form; a new movement for the protection of children of preschool age is slowly gathering force. In Italy, in France, in England, in America, and in Russia, are heard novel and bold suggestions that the preschool child should go to school, that he is altogether too much neglected, and that society for its own welfare must provide new means for his early nurture. The English Parliament, in 1918, passed the notable Education Act, which gives historic and official sanction to this very suggestion. Section 19 of this act reads in part as follows:—"The powers of Local Education Authorities shall include power to make arrangements for supplying or aiding the supply of nursery schools . . . for children over two and under five years of age . . . whose attendance at such a school is necessary or desirable for their healthy physical and mental development . . . "

Mr. H. A. L. Fisher, Minister of Education, was the sponsor of the Education Act of 1918. He had seen

with his own eyes the appealing results of the pioneer nursery school which the McMillan sisters, with rare sacrifice and devotion, had established in one of the most discouraging slums of London. It is well to recall that the opening clause in this basic educational law reads: "With a view to the establishment of a national system of public education available for all persons capable of profiting thereby, it shall be the duty, etc., etc." Is the preschool child such a person? Does he, after all, come within the purview of social, educational authority? Is the nursery school destined to become the foundation of the educational system in England?

We live in days of social reconstruction. It may be too early to press these questions; but it is not too early to ask them.

Indeed they were anticipated many years ago. Four hundred years before Christ, Plato put them in the mouth of Glauco who says to Socrates: " . . . and concerning the nurture children are to have while very young, in the period between their generation and their education, which seems to be the most troublesome of all, endeavor then to tell us in what manner it should be done." One might wish that Socrates had been more specific in his conversations on the subject, because we need some of his wisdom in considering the deeper issues of the nursery school movement of today.

Twenty-two centuries later a very dynamic Englishman, Robert Owen, also drew a picture of the ideal state.

Like Plato he mapped out a community system of education which included the preschool period of childhood. More than that, he founded the very first nursery or infant school in Great Britain and also the first one ever established in the United States. He anticipated Froebel by two decades. The present-day nursery school movement is in a sense a revival of the infant schools [1] which Owen created in his daring educational and social experiment in the dreary factory town of New Lanark, Scotland. That experiment began in 1800 at the beginning of the Industrial Revolution, a time when children even of preschool age were bound out as apprentices to work in the mills for twelve hours a day.

Robert Owen is a figure of historical significance. He was a picturesque mixture of business man, visionary, and philanthropist. Born in humble circumstances he rose rapidly to a position of wealth and leadership. He revolutionized the working conditions in the cotton mills, abolished child employment, introduced play-

[1] It was the success of these experiments in early education which excited the admiration of Madame Necker de Saussure, referred to in a previous chapter. She writes: "And in relation to the formation of character, which is so much more important, what light is furnished by the new infant schools! When we see these establishments where more than a hundred children, from two to six years of age, contracting together habits of order and receiving the first elements of instruction, and throughout their play and lessons having neither tears or cries or quarrels, but constantly exhibiting the image of happiness—we are astonished at the greatness of the results to be obtained by the use of the simplest methods, and ask how it is possible that as many ages could have passed away before we thought of them."

The present chapter will make no attempt to summarize the beginnings of the infant school and kindergarten movement in America and England. A convenient discussion will be found in Forest, Ilse: *Preschool Education: An Historical and Critical Study.* New York, Macmillan, 1927. 413 pp.

grounds and Pestalozzian methods of education, transformed housing conditions, established insurance funds, fought for laws forbidding the employment of children under ten. When Parliament asked him how poverty might be done away with he drew a picture of a New Moral World, an organization to rationally educate and employ all, through a new organization of society which will give a new existence to man by surrounding him with superior circumstances only. He contended that "the infants of any one class in the world may readily be formed into men of any other class." "External circumstances may be so formed as to have an overwhelming and irresistible influence over every infant that comes into existence, either for good or evil; to compel him to receive any particular sentiments or habits, to surround him through life with the most agreeable or disagreeable objects, and thus at pleasure, make any portion, or the whole of the human race, poor, ignorant, vicious and wretched; or affluent, intelligent, virtuous and happy."

More than a century ago this picturesque and irrepressible philanthropist, Robert Owen, came to the United States and purchased a whole village, the Rappite village of Harmony, with its church, its houses, factories, and 30,000 beautiful acres on the Indiana banks of the Wabash. In 1825, Owen appeared in Washington before a distinguished audience, consisting of both houses of Congress, the judges of the Supreme Court, the President, John Quincy Adams, and his Cabinet. In connection with this address he exhibited a model of

the huge hollow square of buildings which he intended to erect in New Harmony. He explained his plans for the redemption of the human race, which included an infant school on the first floor of these buildings.

It was not all pure dreamery. Within a year, in Community House No. 2 of New Harmony, Indiana, Madame Neef was conducting a nursery school of over 100 children. This woman was the wife of Joseph Neef, an associate of Pestalozzi. Thus by a curious converging of currents the most modern tendencies in preschool and primary education came to prompt expression on the middle west frontier, not far from the cabin on Pigeon Creek, where lived Abraham Lincoln, then in his early teens.

Robert Owen was a pioneer, whose work was to win a high estimate from Thomas Huxley, the English scientist: "I think that every one who is compelled to look as closely into the problem of popular education, must be led to Owen's conclusion that the infant school is, so to speak, the key to that position, and that Robert Owen discovered this great fact and had the courage and patience to work out his theory into a practical reality is his claim, if he had no other, to the enduring gratitude of the people."

History is repeating itself. The new nursery school movement in America again owes some of its impulse to influences across the sea. The greater intensity of industrial forces has brought the problem of preschool education to an earlier and clearer focus in England.

Nursery schools of Boston, Cambridge, Detroit, Cleveland, New Haven were early directed by women with experience in British schools. There has been a stimulating participation of interests and vision.

The nursery school movement, in England, represents a social self-protective adaptation to conditions which might otherwise become intolerable for state and child alike. The most characteristic nursery schools are those which have sprung up in the slums of London, Bradford, Manchester, and Dundee. They remind us forcibly of Robert Owen's problem at the beginning of the nineteenth century. The mothers of the children in the Dundee nursery school work in the mills or go out as charwomen. The homes are wretched. Many times a family of four or five lives in one room and sleeps in one bed. A nursery school accomplishes much under such circumstances, and the mothers are keenly appreciative of its influence on the child. "I ken an awfu' odds on him," is a typical remark.

The poverty of Southeast London, where the largest nursery school, the Rachel McMillan Nursery School, was established, may not be as dire, but it is dire enough. The dwellings are huddled and squalid, beer shops and public houses are numerous, wages are low, employment is precarious; and a few years ago nearly all the preschool children in this particular part of Queen Bess's area were verminous and suffering from rickets, malnutrition, and physical defects.

It is in this district that the McMillan sisters with

great daring undertook to develop an open air type of nursery, consisting of a central garden and a group of simple, shedlike structures called shelters. By means of very simple methods this school has wrought revolutionary changes in the health, happiness, and activities of children from one to six years old. In this nursery school one finds over two hundred children of preschool age who have in large measure escaped the blighting effect of the poverty in which they were born. They have escaped solely because of the intervention of a welfare agency which surrounded them with the basic conditions of nurture which it was beyond the power of their parents to provide.

Such a nursery school, therefore, represents more than an interesting experimental venture in the field of early education. It is too sincere, too vital to be so described. This nursery school which has made its influence felt throughout England, and indirectly in America, is a defensive rampart against the aggressions of poverty. Poverty encroaches upon all life, but most of all it encroaches upon the life of infants and of young children. So disastrously and distortingly does it lay hold upon early childhood that in very self-protection the community must take action. Varied forms of social self-protection have taken shape in England. There are infant welfare stations and maternity centers; there are health visitors, compulsory birth registration, and other sanitary measures; but among all child-welfare devices the nursery school stands out as a fundamental re-

vision in the scheme of things, a reorientation which brings the home, infancy, and the community into a unique coöperative relation. Consider that this innovation has the official recognition of Parliament, and the significance of the nursery school movement becomes accentuated.

It is not surprising that both the first and the second Labor Governments in England went on record as being seriously interested in the establishment of more nursery schools. Mr. C. P. Trevelyan, M.P., Minister of Education, clearly expressed a conviction of the value of nursery schools and a readiness to consider a proposal for their further development. The official report of the parliamentary debates in the House of Commons reflects the importance of the nursery school movement. Mrs. Wintringham, M.P., in her discussion said, "We have talked a great deal about housing in the last week. At present it does not seem possible to remove our slums as quickly as some of us would wish. While we can not do that, why not try to improve the slums by introducing children's gardens and nursery schools in the slum areas? The government could do that. It has been tried in some cases most successfully."

Sir George Newman, Chief Medical Officer of the Ministry of Health, in an official annual report, makes these significant statements:

"The fact is that after the first year of life the young child has to bear a heavy burden of environmental neglect, associated with bad housing, poverty, and ab-

sence of hygienic supervision. As a result the School Medical Service is faced with the hard issue that, out of an infant population born healthy, 36 to 40 per cent of the children who are admitted to school at five years of age, bear with them physical defects which could have been either prevented or cured. This is indeed a bad start on the journey of life. . . . I look forward to a time when the Nursery School will take its place in the programme of educational or health development."

The Geddes ax cut off the rapid growth which the proponents of the nursery school had anticipated. Whether it will be economically possible to create nursery schools on a large scale in the near future remains to be determined. It will doubtless prove possible, if it is really necessary, and when a sufficient number of English statesmen and community leaders deem it necessary, the ways and means will be found; and the nursery school will gradually become incorporated in housing schemes, in city planning, and in public administrative policy. Miss Margaret McMillan has demonstrated that a large nursery school can be operated at a per capita cost which is rather less than the per capita cost of elementary education. She boldly proposes that henceforth no more ordinary infant schools should be established, and that within five years, 500 large nursery schools (of the open air type) should be built each accommodating 300 or 400 children.

The potential social influence of such a program is incalculable. Its public health significance is appar-

ent. Miss Grace Owen, as one of the leaders of the British nursery school movement, insists that continued neglect of the preschool age of childhood would be fatal to the whole national effort to raise the physique of the people.

For the whole of England and Wales there are still only twenty-seven nursery schools; twelve established by local Education Authorities and fifteen by voluntary Committees, with a total accommodation of about 1500 children. This is true even though the nursery school movement now has an expression of warm support from all three of the political parties. It is believed, however, that this type of school has a sure future in England and "there is not the least question of either withdrawal or regret." [2]

The growth of the nursery school movement in America has been confined almost entirely to the post war decade, according to a recent report compiled by the bureau specialist in nursery-kindergarten-primary education, January, 1930. Three schools had been established in the period between 1914 and 1918; 16 were established in the next five-year period; 108 schools in the period from 1924 to 1928. Twenty-two more schools were established in 1929, making a total of 149 schools reporting. When the schools were analyzed on this basis the distribution was as follows: *Class A.* Schools organized principally to provide educational programs

[2] Roman, F. W. *The New Education in Europe.* Dutton, New York, 1930. 438 pp.

for young children and their parents; number 62. *Class B.* Demonstration and training centers for students in teacher training institutions and in departments of education, home economics, and psychology in colleges and universities; for pupils in upper elementary grades and high schools; and for trained nurses and nurse maids. These centers are also used to demonstrate the values of preschool education to communities; number 42. *Class C.* Laboratories for research in child development and parent education; number 9. *Class BC.* A combination of the purposes described under *B* and *C;* number 26. Not classified, 10. Total number, 149.

These nursery schools report a total enrollment of approximately 3,000 children. When it is recalled that the preschool population is in size almost equal to that of the elementary school population, and that about one child out of every eight of eligible age is attending a kindergarten, it is clear in a statistical sense that formal provisions for preschool education are very incomplete in America. The social importance of the nursery school movement, however, greatly exceeds its numerical limitations. These schools are being conducted in close association with universities and adult education agencies and their influence is widely felt at the present time. Although the nursery school procedures and philosophy are by no means crystallized, they have proved suggestive and liberalizing to kindergartners, and to day nursery and parental groups. The management of

problem children in nursery schools is helping to define methods of child and parental guidance. Much of this effort is truly preventive.

The emphasis on developmental hygiene is reflected in the fact that three fourths of all the schools report the services of a pediatrician or physician; two fifths use the services of consulting psychologists; one fourth have an educational specialist and a nutritionist on the staff; over one third receive daily or frequent service from a trained nurse.

What is a nursery school? There is no simple uniform answer; the nursery school has not become a fixed institution and it varies much with the soil in which it grows. It is not a day nursery or a *crèche* in which children are "minded" while mothers work or idle. It is not a receiving or a detention station. Its methods have application to the needs of children of well-to-do as well as of working mothers. Some of our American nursery schools are attended by children from economically well-favored homes.

Nor is the typical nursery school a kindergarten. The traditional American kindergarten provides for older children from four to five years of age, and is conducted somewhat as a schoolroom; it deals with large groups and follows the public school program. In function a nursery school is neither custodial nor didactic; it is nurturing. It makes a systematic effort to provide hygienic care and training in close coöperation with the child's parents. It is not a substitute for the home, but

an adjunct. Its proper aim is not to furnish an opportunity for mothers to earn wages, but to furnish to the preschool child improved conditions for physical and mental development. In this sense it has a service to render to favorably circumstanced children as well as to children of the poor. And, it must be repeated, all this service is designed not to reduce but to sharpen the responsibilities of mothers and fathers. The nursery school contributes to adult as well as to child education.

A central and essential feature of every nursery school is a garden or play space, where the children can feel the life in their limbs and give some expression to it—romping, running, playing games of their own or of their teacher's device, drawing carts, wheeling barrows, and digging in the sand lot. Here they get health-giving contacts with air and sunshine, supplemented with milk and sleep. Here, too, they have numberless experiences which are ultimately educational—experiences with growing things, with animal pets, with other children.

Generous untrammelled opportunity for outdoor play in a favorable environment alone works wonders in the development of preschool children. Edinburgh has not found it possible to finance complete nursery schools; but is organizing on an extremely modest budget, supervised "toddlers' playgrounds" which have accomplished marked and beneficial health results. Combine milk, air, sunshine, and rest with a psychological factor which consists chiefly of happy, wholesome self-expression,

and you have the formula for the miracles which the nursery school works upon the body and spirit of underprivileged children.

Buildings are of somewhat secondary importance in the nursery school scheme. They vary from substantial brick structures to simple one-story sheds or shelters, with sliding doors and folding partitions which open to air and sunlight. Equipped with attractive furniture and brightened with colorful decorations, these shelters, far from resembling barracks, give an impression of simple beauty and homelikeness. When a nursery school is most closely related to the homes it serves, it has a noninstitutional, neighborhood quality, which adds to its charm and effectiveness. If the nursery school should really become an accepted feature of our social organization, we may look for new expressions of art and architecture in this field, for the nursery school will then become a problem in housing schemes, apartment construction, and community planning. Already there have been interesting though minor innovations in equipment.

An attractive nursery school in Bradford has an ingenious aquatic arrangement, a series of low overhead showers which pour into a shallow runway and make a flowing stream in which a child has a glorious chance to disport himself. This arrangement is very simple, but surely it is more sensible than a row of cramped porcelain bowls or tubs. It is justified in the sheer delight it affords, as well as in its educational and hygienic

advantages. The nursery school director regretted that she did not make this aquatic pool just a little deeper. She was sure she could teach her preschool children to swim. She did not, however, insist that this should be matriculation requirement for school entrance!

The curriculum is not the important problem in the nursery school. Formal instruction in school subjects like reading and writing usually does not figure at all. The problem is to construct a day's program which will not overstimulate the children; which will, however, contain optimum conditions for normal development, which will furnish opportunities for training in everyday habits of living (from the use of a spoon to control of temper), and which above all will enable the parents to share in the whole enterprise. A typical schedule begins about nine and closes about four-thirty with a midmorning and midday lunch, and with sleep from one to three. Such a nurturing program, it is evident, is not purely physical in its scope; but can be conceived and conducted in a manner to yield educational results, to strengthen mind as well as body.

It is urged that we must not overstimulate the young child, that what he needs is wholesome neglect. Granted; but if the neglect is to be wholesome, it must be intelligent, considered. There are numberless preschool children who are spending themselves nervously in unfavorable, careless environments. These children are not building the foundations of morale or laying up a reserve for later life; and their full potentialities will

not be realized. Mental health is not a predetermined product. It needs the same systematic concern which we have begun to show for physical development.

The nursery school has demonstrated its usefulness in the field of mental hygiene. It has proved to be very effective in reconditioning children with minor behavior disorders such as tantrums, excessive shyness, faulty eating habits, notional food prejudices, refusal to nap after lunch. Through the weight of "public opinion" of the nursery group and through wholesome suggestion, even highly refractory and perplexing "cases" respond to reëducation.

Parents respond to similar educational influences. Much is done by direct conference with parents, still more by indirect suggestion; and the ideal nursery school is one in which parents have a distinct sense of participation, responsibility, and ownership. The nursery school director who said she didn't know whether her work ended or began when her children went home had the right philosophy. The mother who cheerfully complained that the nursery school had increased rather than reduced her burdens had caught the same philosophy.

The nursery school as a benevolent expedient for removing the home burden of child care does not excite either our interest or our imagination. But the nursery school as a new device for raising standards of child hygiene and of improving parental capacity makes a different appeal. At its best the nursery school becomes

a neighborhood culture center, through a spontaneous growth of coöperation which brings children, mothers, fathers, physicians, and teachers into new humanizing relations.

At the Princeville Nursery School at Bradford, England, for example, there is a fine lawn bounded by neat paths. "That lawn and those paths," we are told, "and the big flower bed bright with bloom that borders the veranda are all the voluntary care of the fathers of the nursery toddlers." There are also a Women's Club numbering eighty mothers, which meets for educational and recreational activities, an orchestra of a score of boys and men, a library, and a literary society; a choral society and tennis club are afoot, all byproducts of the nursery school.

So with its many-sided manifestations, the nursery school movement proves to be full of suggestion and of challenge. With Owen it was the first impulsive reply to the crushing threat of the new factory era; in New Harmony it was a visionary wish and an ephemeral reality; in London it was a painfully evolved measure of protection for children of the slums; in Rome, an experimental venture in the field of model tenement construction; in Dundee it is an effort to create something better than a day nursery for the benefit of mill workers and charwomen; in Manchester, it is rendering a similar service and creating a new kind of professional training for teachers of preschool children; in Bradford it is both a public and a voluntary neighborhood enter-

prise. Throughout England, it is at once part of a public health movement and a reaction against traditionalism in primary education. In America it has found a varied association with private and public endeavors—with a public kindergarten, social settlement, health center, a mental hygiene clinic, a bureau of educational experiments, a school of home making, and a university laboratory. It has almost become a standard feature of a university campus. One can not predict the evolutionary future of such a protean mutation. But one may be sure it has a future.

The differences between the British and the American nursery school movements are not without interest. In summary, the American nursery schools are more diversified. They vary from simple, informal arrangements to elaborately appointed provisions in which the per capita pupil cost becomes extremely high. They serve all social levels and if anything favor children from professional and privileged stratas. Educational procedures also vary widely from the free "meandering" type to a stricter habit-forming régime. Scientific research is a prominent feature and the whole movement has become closely linked with adult education and professional training. As a movement, preschool education has been closely related to the mental-hygiene and child-health movements, to the widening program of home economics education, to the earlier child study movement, and to the growing movement for parental education, which in 1925 resulted in the organization of

the First Conference on Modern Parenthood, and a National Council of Parental Education. There is also a definite trend toward the unification of nursery, kindergarten, and primary education.

It is well that the nursery school has not yet crystallized into a conventional pattern. We may welcome rather than fear the nursery school in its present experimental forms. Economic factors will prevent overrapid multiplication and place a premium upon more fundamental, functional methods of approach to the interdependent problems of preschool and parental education. Far from being an insidious encroachment upon the power and prerogatives of the home, the best principles of the nursery school may permeate the practices of family life and impart perfecting impulses to the parent-child relationships of the coming generation.

CHAPTER VII

THE RECONSTRUCTION OF THE KINDERGARTEN

THE NEW RÔLE OF THE KINDERGARTEN IN MENTAL HYGIENE AND PRESCHOOL EDUCATION

NO part of our public educational system has had a more interesting history than the American Kindergarten. And in many suggestive ways this history shows correspondences with that of the nursery school. Indeed, two generations ago the Kindergarten was in much the same sociological position as the nursery school of today.

When the Kindergarten was introduced into America it was on a philanthropic basis and it remained so for a long time before it became a tax-supported feature of the public system. In this early period it was promoted by both religious and secular organizations as a means of social regeneration, and like the present day nursery school, it attracted fine, idealistic types of young women. "We as a nation were gradually awakening to the new social problems due to enormous increases in foreign population. Our slums were in process of formation. These became sources of disease, crime, delinquency, and industrial disorders, breeding centers

of problems which we were naturally unprepared to meet. The Kindergarten appeared on the horizon at the right moment." So it seemed to the pioneers.

Three quarters of a century ago, in 1855, the first Froebelian kindergarten was organized in America at Watertown, Wisconsin. It was a German importation. In that same year Charles Dickens wrote a brief article on *Infant Gardens,* commending this unique educational invention to his countrymen. In that same year also Henry Barnard[1] wrote a report for the Governor of Connecticut in which, with insight and enthusiasm, he characterized the kindergarten as "by far the most original, attractive, and philosophical form of infant development the world has yet seen."

Fifteen years later, in 1870, William T. Harris recommended the adoption of the kindergarten as part of the public school system of St. Louis, a recommendation which was heeded.

In 1875, Madame Severance of Boston, introduced the first kindergarten in Los Angeles. It was located in a queer old round house built by an equally queer old sailor in what was then suburban territory. The house had been converted into a suburban resort, and although it was surrounded by a high cactus hedge, it was, with California restraint, called Garden of Paradise. This was converted into a Child Garden. From Santa Bar-

[1] Horace Bushnell was a college contemporary while Barnard was at Yale. Bushnell became famous later as the author of a book on *Christian Nurture* which laid unusual emphasis on the spiritual and religious significance of the preschool years of childhood (see Chapter III).

bara there came to this kindergarten one of the first student teachers, Kate Douglas Wiggin, who in due time was to send Patsy as the first preschool propagandist on his educational errand.

In its pioneer days the kindergarten frequently engaged in educational and hygienic activities similar to those of the modern nursery school. It even provided for children of early preschool age and developed systematic contacts with their parents. The progressive kindergartners of today have lost none of this social tradition and welcome the nursery school as a new agency for furthering the ideals of the pioneering kindergartens. The kindergarten in its past history has shown an adaptability to new social demands. It showed also a capacity to incorporate the new points of view of the child-study movement. Because of historical factors, there has always been a conservative type of kindergarten, dominated by a mystic symbolism out of touch even with the most elementary physical and psychological needs of young children. Some of these kindergartens persisting into the present day, far from making a contribution to mental hygiene, suffer from want of it. On the other hand, there are kindergartens of the liberal wing, which exemplify the nearest approach to ideal educational practice that can be found anywhere in our public school system. Such kindergartens have always wielded a liberalizing influence upon the spirit of American education and they justify the faith that a reconstructed kindergarten will play

an important rôle in the social control of the mental welfare of the preschool child.

The kindergarten is now a recognized part of the typical public school system of America. The Bureau of Education gives the following figures for 1924–26: 91 per cent of cities of 100,000 and more population, 69 per cent of cities of 30,000 to 100,000 population, 40 per cent of cities of 10,000 to 30,000, and 32 per cent of cities of 2,500 to 10,000 population maintain kindergartens. In California it is anticipated that the kindergarten may in time become an almost universal and compulsory part of the public school system, and that the nursery school may then be placed on a mandatory-on-petition basis.

The fate of the kindergarten in American education seems to hang upon the manner in which it will address itself to the larger problems of child welfare which concern at once questions of public health and of educational and social policy. We are in the midst of a steady social evolution so far as the status of the preschool child is concerned. He will attract to himself new forms of educational endeavor and of social supervision.

Modern scientific thought and the whole trend of preventive medicine literally force us to take a revised conception of education, and particularly a revised conception of the developmental significance of the preschool years. In one form or another these years are coming under increased social control. That much can be predicted with safety.

But how this control will be accomplished can not be predicted. That the kindergarten or its equivalent will play a considerable rôle in the associated fields of preschool and parental education can hardly be doubted, because the kindergarten is strategically located at the very growing edge of the public school system.

This strategic significance of the kindergarten as an educational instrument rests upon the following facts:

1. The kindergarten has a frontier position in the educational organization.
2. It is naturally the recruiting and receiving division of this organization and therefore has many functions in the hygienic regulation of school entrance.
3. The kindergarten is in a position to develop close contacts with homes through parent conference and home visitation, to say nothing of systematic parent education.
4. The kindergarten is a most natural resource for the development of demonstrational and participating arrangements in the field of preparental education.
5. The kindergarten has an important function in the field of parent guidance and individual child guidance in relation to many types of handicap and minor behavior defects in early childhood.
6. The kindergarten lies in closest proximity to the public and quasi-public agencies which are concerned with the protection and supervision of the early physical development of infants and young children.

The problem of school administration, therefore, is not the multiplication of nursery schools as such, nor even the multiplication of kindergartens as such, but the readjustment and extension of present educational and hygienic control of early child development in relation to home and parent.

It follows that for the administrative solution of the problems indicated there is demanded cumulative experiment and demonstration. The nursery school itself should be regarded as an experimental means of determining methods, techniques, and economic possibilities. It is suggested, however, even more strongly, that in the meantime the kindergarten should also be deliberately utilized as an experimental station in a similar manner.

The kindergarten has been singularly free from experimental study. School board and superintendent have been ready to supply material equipment, but have then been inclined to grant the kindergarten a somewhat detached freedom. Since, however, the kindergarten is really the recruiting station of the elementary school, it ought to be the most active and fertile field of experimental education, in the administrative sense as much as in the pedagogical. Nearly all the prevailing kindergarten practices follow the same pattern with regard to age, personnel, equipment, and program. The kindergarten consequently is in danger of crystallizing into just another schoolroom, when to meet the new demands it should develop a versatile, multiple technique that will

bring it into more effective contact with a wider range of childhood. The reconstruction of the kindergarten constitutes a major problem of school administration.

If we go on the assumption that the kindergarten is a place for five-year-olds, and that they attend on a full-time basis daily, like any other school children, we prejudice the solution of the problem. If, however, we regard the kindergarten as the vestibule of the public-school system, as a controllable port of entry, and give it freedom to develop varying, multiple contacts with different age levels and with parents, it may be possible to overcome the institutional delimitations toward which the kindergarten pattern is now tending. An experimental attitude toward the kindergarten seems to be an outstanding need in the present situation.

The specific directions in which progressive experimentation should be undertaken may be characterized as follows:

a. Periodic and part-time attendance for four-, three-, and two-year-old children. It should not be taken for granted that full-time daily attendance on the ordinary elementary school basis is the only available procedure for the organization of preschool education. For educational reasons, to say nothing of economy, it should be profitable to define graduated and differentiated attendance arrangements which may enable the kindergarten (or its equivalent) to make contact with a wide range of age groups and establish anticipatory rela-

tions with parents of young children before the latter reach the age of five years.

b. Extension of parent conference and parent training provisions so that an increasing amount of educational work will be accomplished in the homes prior to the present kindergarten and primary school age.

c. Correlation of home economic courses in child care with kindergarten procedures developing provisions for participation, demonstration, and observation.

d. Individualized child-guidance work for children from two to five years of age who are in special need of mental hygiene measures, and whose parents require special guidance. This work may be accomplished by closer association with child health agencies, medical school inspection, visiting teachers, etc. It is essential that means should be found for discovering and helping certain handicapped children before they reach school age. The technique for this work is concretely outlined by the methods of the habit clinic, the child guidance clinic, and the guidance type of nursery.

e. The gradual incorporation of selected features of nursery school practice.

f. The shifting of educational approach to the whole family rather than to the individual child, and the development of the community unit and neighborhood idea, both in rural and in urban districts.

g. A fundamental revision in the training of kindergarten and primary teachers which will give an outlook upon the new social implications of all work with

young children and will incorporate some of the better features of nursery-school methods. The nursery school and the progressive kindergarten have aims in common.

Historically the kindergarten is committed to a policy of downward extension. For most of the nineteenth century it has been on the frontier fringe of the elementary school, taking colonial possession of contiguous territory. With each advance there must be a new alignment. The nursery school movement may be regarded as a brisk skirmish on the first line of penetration. The logical thing will be for the kindergarten to assume the task of reconstructing its organization. The illogical thing would be for the kindergarten to curtail its functions and to remain apart from the great educational enterprises which are germinating in this preschool field.

The interest of leaders of home economics in the nursery school movement is a promising and a natural sign of the new preschool trend. Home economics has a large share of interest in the situation, because preschool education must be brought into relation with home-making education. Home-making education can not be confined to traditional domestic science, but must be made to include a preparental type of training in child psychology and child hygiene. Coördination of effort between home economics and kindergarten teachers will therefore promote the development of nursery extension within the kindergarten. The kindergarten will thus assist in solving the great problem of preparental education.

The strategic, the almost embarrassingly strategic, position of the kindergarten makes such increasing coordination of effort necessary, unless the refuge of isolation is sought. From the infant-welfare conference which enrolls the baby, who is the prospective kindergarten pupil, to the home-making junior high school course which anticipates the care of the baby, there are opportunities of educational participation which make the downward extension of the kindergarten all but inevitable.

It will of course be a process of gradual, continuous readjustment. The remarkable development of kindergarten work in connection with consolidated rural schools foreshadows what may yet be. These rural schools are becoming community centers which provide education for adults and children, and render public health service. The mother, the infant, the junior and the senior kindergarten child can all be brought within the scope of such a unifying community service. Perhaps some gifted rural kindergarten with vision may be able to demonstrate what might be done in the city by a more thoroughly humanized approach to the problem of early education.

As a working hypothesis at least, do we not need a conception of a unified, interrelated program of early education? Organically bound to infant welfare health service on the one hand and to the primary school on the other, the child himself is indivisible. We scarcely do justice to his developmental unity until we incorporate

into the kindergarten the nurturing types of service which the nursery school has helped to emphasize. Although the nursery school must have full scope to do its pioneering work, the kindergarten can promote the interests of a unified policy by joining in the pioneering and by sharing its fruits.

Educators, public health leaders, and scientists have found themselves side by side in the new interest in the preschool child. This interest is symptomatic of deeper issues.

It signifies a social movement comparable to the democratization of elementary education. America has made an unsurpassed large-scale achievement in public education. Through her system of elementary schools all the school children of all the people are reached, whether in crowded tenements or in the sparsely settled rural regions. In principle, and to a remarkable degree in actual fact, every child who may profit by ordinary school instruction has an opportunity to secure such instruction.

We must now do something even more basic. We must equalize the earlier developmental opportunities of earlier childhood. This can only be done by replacing the historic concept of education with the modern biological concepts of development, initiating a policy of developmental supervision with the birth of the infant and projecting that supervision medically and educationally throughout the entire period of preschool childhood. Such a system of developmental safe-

guards is part of the fundamental right of the infant of this century.

It is not an exaggeration to say that the complexion of future civilization will be affected by the manner in which we solve the new problems of preschool and preparental education. It is because these problems concern so vitally the home. If we solve them in a mechanical or institutional manner, we shall continue to segregate age groups in separate rooms and detach the young child too much from parents and elders. But we may envisage a solution which will humanize education, which will bring infancy, childhood, youth, and maturity into new and genial relations.

PART TWO

PROBLEMS AND METHODS OF CHILD GUIDANCE

CHAPTER VIII

STAGES AND NORMS OF MENTAL GROWTH

Psychological Aspects of Age and Maturity

"And one man in his time plays many parts." Few have seen the strange eventfulness of the human life span more completely than Shakespeare. He has characterized seven stages of development and decline with a directness and cogency that the professional psychologist rarely attains. For a tabloid summary of the stages in mental growth, can anything surpass the speech of melancholy Jacques? The mewling infant, the school boy with shining morning face, the lover sighing like a furnace, the soldier seeking the bubble reputation; and then the justice full of wise saws; the lean and slippered pantaloon; and last scene of all that ends this strange eventful history, second childishness.

The authority of Shakespeare has not, however, been sufficient to settle the problem of age and growth in any definitive way. No problem is subject to more interesting diversity of opinion. Misconceptions on the matter are numerous, and science has only begun to formulate the issues. Take proverbs for an example. They are presumed to embalm the wisdom of the race. "As

the twig is bent the tree is inclined," is one of these proverbs. Unfortunately there is an optimistic proverb among the Chinese which asserts: "No matter if the twig is twisted, it will straighten when a tree!"

Recent science and philosophy have brought forward points of view which are scarcely less contradictory, and have invested the whole subject of age with a new kind of relativity. The concept of evolution indicates that the race itself is in process of growth; that race characters are more or less fixed adaptations, or perhaps even forms of arrest; but that infancy in the sense of plasticity is in some way being preserved and augmented with the lapse of time. Infancy in this broad biological sense has been steadily prolonged. The stages of mental growth in the individual are not what they were in late tertiary or early quarternary times. Even the life span has been remarkably increased. Professor J. Wingate Todd has suggested on the basis of a study of hundreds of skulls and skeletons that the heaviest death rate occurred in ancient and mediaeval times at about forty-two years, while the heaviest death-rate of adults in modern civilized communities occurs at seventy-two years.

One can not but ask whether with this increase in longevity there is not also some increase in general adaptivity and vitality, some corresponding alteration in the cycle of mental growth. If there is no fixity of cycle, perhaps there is no fixity in the duration and degree of plasticity. In the future, even more than in the past, there must be changes in the span and mode

of mental growth. H. G. Wells predicts that there will be a suspension of senility throughout and conceivably beyond Shakespeare's sixth and seventh ages; while G. Bernard Shaw in his *Back to Methusaleh* has indicated the advantages of two or three hundred years added to the ordinary life span. These life extension hypotheses afford some antidote to the devastating generalization that the average mental age of the American citizen is, say, fourteen years; and that we are a nation of sixth graders.

The race is apparently in need of a greater fund of plasticity; the individual requires more opportunity in which to grow up. It is natural, therefore, that genius should be characterized by acceleration of growth on the one hand and prolongation of growth capacity on the other. The superior person manifests the gift of growth. This trait is very clear, for example, in the writings and utterances of Abraham Lincoln. Sandburg has given a vivid impression of the psychological process of ripening which steadily seasoned Lincoln's thought and character.

A recent edition of Emerson's *Journals*[1] has brought into conspectus the growth of his own mind from the age of sixteen to seventy-two. He records himself in a manner which reveals not only the maturation of his mental processes, but his own reflections on the very problem before us. At the age of thirty-nine he wrote: "Time is the little grey man who takes out of his breast-

[1] Bliss Perry: The Heart of Emerson's Journals. Houghton Mifflin, Boston, 1926. 357 pp.

pocket first a pocketbook, then a Dolland telescope, then a Turkey carpet, then four saddled and bridled nags and a sumptuous canvas tent. We are accustomed to chemistry and it does not surprise us. But chemistry is but a name for changes and developments as wonderful as those of this Breast-Pocket. I was a little chubby boy trundling a hoop in Chauncy Place and spouting poetry from Scott and Campbell at the Latin School. But Time, the little grey man, has taken out of his vest-pocket a great, awkward house (in a corner of which I sit down and write of him) some acres of land, several full-grown and several very young persons, and seated them close beside me; then he has taken that chubbiness and that hoop quite away (to be sure he has left the declamation and the poetry) and here left a long, lean person threatening to be a little grey man, like himself."

At sixty-six he wrote: "Compensation of failing memory in age by the increased power and means of generalization." He also noted, perhaps with some comfort, that Cato began the study of Greek at the advanced age of eighty.

Stanley Hall wrote a book on *Senescence* at seventy. He reduces the chief stages of mental life to five: (1) Childhood; (2) Adolescence; from puberty to full nubility; (3) Middle Life, or the prime, when we are at the apex of our aggregate of powers, ranging from twenty-five or thirty to forty or forty-five and comprising thus the fifteen or twenty years now commonly called our best; (4) Senescence, which begins in the early forties,

or before in woman, and (5) Senectitude, the postclimacteric or old age proper.

Stanley Hall's treatment of senescence is constructive. He makes it coterminous with the last half of life, a kind of afternoon adolescence. Senescence is not old age, it is aging. Old age is postponed to senectitude!

It is evident that for a consideration of the stages of mental growth we need perspective. We can not begin with the assumption that this growth is limited to infancy and childhood and adolescence.

The whole movement of parental education happily makes the assumption that adults can be educated. The larger movement for adult education, of which parent education is a part, will lead to a new recognition of the plasticity of mature years. It would be unfortunate if parents came to believe that child training is a matter of rule and thumb. There are not many fixed rules for universal application in the rearing of children. Even parents should not consider themselves grown-ups in the presence of their problems of child training, but preserve a faith in their own growth potentialities. For the old idea that parents are more or less finished grown-ups who must pass a torch to their children, is it not desirable to substitute the idea that parents and children must grow up together?

The length of the psychological growing span in adults doubtless varies with racial and with individual differences. For physiological, dynamic, and possibly moral reasons, some individuals simply keep on grow-

ing after certain of their contemporaries have stopped doing so. Whether this is due to grace of spirit or to biochemical determinations we may feebly speculate; but the fact itself we can not deny. We may even entertain the faith that right living and social suggestion can lengthen the growing span. An index of growth potency would supply a most important cue to any individual, whether child or adult.

In the field of parent education, if we are dealing with a parent who is nonplastic and somewhat blind to the psychology of the child, we must resort to prescriptive, rule-of-thumb procedures, and teach child management purely as an art. But the typical parent is plastic and will profit more by an interpretive philosophy of the total parental task than by specification of procedure. The concept of growth must become the essence of that philosophy. It is the key to understanding the child, it is the key to the self-knowledge of the parent. The child, to be sure, has the capacity of growth in richer measure than his father or mother; but this very capacity can be protected only if the parents will attune and adjust their own growth to that of the child. It is sound educational psychology, rather than sentiment, to say that parents must grow up with their children. It is paradox, but truth, to say that only by keeping up with the child can the child forge ahead sufficiently to make the next generation as much better as it ought to be. Parent education and child education are not two tasks, but one.

The growth tensions and growth limitations of child and elder interact, all along the path. When this interaction is kept in a forward moving equilibrium, both parent and child grow up. When not, there are distortions and arrests of growth on either side.

The managerial, autocratic, possessive concepts of parenthood have an ancient historical sanction; but they have no sanction from modern science, which at every turn discloses the reciprocal sensitiveness and interdependence of all associated organisms.

These general considerations indicate that the problems of stages in mental growth extend to the very brink of old age. Growth is indeed such an indivisible, organic complex that it can not be understood at any one phase except in terms of prior and consequent phases. There are reasons enough why we should continue to focus our interest on the early stages of mental growth, but we can always find an added justification for our respect for these early stages in the fact that lawfully, though subtly, they affect the remoter phases of the life cycle. The lawfulness and organic unity of growth make it certain that any favorable tendency established in the early stages will project itself into later stages. We are therefore on safe ground when we emphasize the dynamic and projective importance of any early stage of growth.

How many are the stages in mental growth? There is of course no official answer. The number depends almost entirely upon editorial and scientific convenience.

Roughly there are only two halves—a first and a second half of life. But few would content themselves with such a parsimonious classification. The philosopher who clings to culture-epochal theories will find The Older Period of Savagery, The Middle Period of Savagery, and A Later Period of Savagery, likewise The Three Periods of Barbarism. Another will make a distinction between The Root and Grub Stage, the Hunting and Capture Stage, The Pastoral Stage, etc. Professor H. L. Hollingworth, taking his point of departure from psychometric levels, has suggested in his list of stages: Babyhood (the first three years), the Questioning Age (The Imbecile Hurdle), The "Big Injun" Age (The Moron Hurdle), the Awkward Age (Adolescence). The anthropologist may take his point of departure from the various periods of dentition or from centres of ossification, or in the numerous shifting anthropometrical indices, or in changes in endocrine dominance. The student who approaches the problem from the standpoint of language development will be able to multiply linguistic periods in numerous ascending orders. Piaget has defined some very significant "stages" in the differentiation and prominence of various functions of language in early childhood. A recent medical writer, from the standpoint of hygiene, distinguishes seven ages of childhood and places six of these in the preschool period.

Therefore the whole question of classification of stages is one of practical necessity or of convenience. After

all, growth is a continuum and the school boy's conception of a line as a succession of points is appropriate. The motion picture film can be separated into a succession of numerous frames. Each frame is an episode in a sequence. In the complicated field of mental growth, we have almost an infinitude of episodes and aspects.

Consider the reactions of the infant to a tiny pellet. It is amazing to see how complex even this apparently simple bit of behavior proves to be. There are significant, describable differences in the reactions at the fourth month, fifth, sixth, seventh, eighth, ninth lunar month, etc. It is clinically practicable to differentiate a dozen or more "stages" in the apprehension and prehension of a pellet.

This does not, of course, mean that our scientific problem is to multiply stages of development indefinitely, because it is very important to discover common and correlating factors. However, it is also unwise to simplify the problem unduly through more or less rhetorical devices. We must acknowledge the intricacy of growth.

Is the cycle of growth simple or multiple? The answer to this question has been anticipated. It is evident that mental growth has so many facets that it can be studied from an almost innumerable number of angles. It is possible to tease out, by a process of dissection, certain lines of growth. These lines will tend to converge and pursue coördinate courses which in ample perspective will resemble a single pathway, a simple cycle of growth. But in the light of our present

knowledge we are obliged to emphasize the fact that growth is made up of an undetermined number of components. These components are more or less elementary, more or less independent. Speech development and development of intelligence in a great many cases pursue much the same path at much the same tempo, but there are clinical instances in which one discovers an amazing degree of independence in these two factors.

Even such a complicated and fundamental factor as pubescence may operate with much autonomy so far as the general course of mental growth is concerned. We have had an opportunity to study two cases in our clinic in which pubescence was extremely precocious. In one girl the onset of puberty was a full decade in advance of the ordinary age, without any perceptible influence on the development of intelligence.

Provisionally, then, one may conclude that in spite of orderly confluence in the components of the growth complex, there is a high degree of specificity and independence in these components.

Can the stages of mental growth be determined? Assuredly yes—whether we think of the components or of their aggregation into constellations. Behavior is the functional index of mental growth. Inasmuch as behavior can be seen, described, and photographed, we are justified in saying that mental growth can be formulated and in a sense measured. The growth of the mind, scientifically conceived, is essentially the development of a sequence of behavior values which are correlated with

the maturation of the nervous system. The structural problems of developmental psychology are not unlike those of embryology; a serial cross sectioning of the stream of behavior leads to an understanding of its genetic relations and its laws of emergence.

Can the rate of mental growth be determined? Growth takes place in a world of time and space. In a spatial sense, at least, growth may be portrayed. These portrayals of growth may be brought into relation to the age factor and to this extent, at least, the rate of growth may be formulated. We may formulate what takes place in the behavior sense, characteristically, between the ages of the fourth and fifth decade, the fourth and fifth year, the fourth and fifth month, the fourth and fifth week, and by using a comparative method we may hope to express the alterations of growth in terms of more, or less. Accepting the hypothesis that growth is a complex, we may record the progress in individual lines of growth; or in the complex as a whole.

Can the normality of mental growth be determined? Even common sense and empirical psychology are able to make shrewd judgments concerning questions of maturity and immaturity, balance and imbalance, stability and instability, in the development of the child. Is it not certain that the psycho-biological investigations now under way will some time yield methods of measurement and principles of medical interpretation which will make these judgments of normality more discriminating and more predictive? The analytical study of the

complex of mental growth is practically justified, because it will inevitably lead to the formulation of dynamic concepts and of normative standards. Accordingly, it will also lead to increasing regulation and hygienic control.

The Yale Psycho-Clinic has made studies of several hundreds of normal infants, which show that the curve of mental growth tends to follow lawful lines. Although we have not found two babies, even twins, exactly alike, neither have we found two normal babies of the same developmental age who were absolutely unlike. The underlying similarities of given age levels constantly assert themselves. In the defective child there is a significant tendency to approximate a subnormal level of behavior. In the superior infant there may be definite acceleration. In other words, the development of behavior, or the growth of the mind, obeys certain laws of organic sequence. By means of appropriate tests and behavior norms, we may record and appraise the psychological status of the growing child. We may consider this status from the standpoint of motor development, language, general adaptive behavior, and personal-social behavior. His personal-social behavior concerns his emotional life and his capacity to make social adaptations. This is particularly important from the standpoint of mental hygiene.

Norms in some form, whether age norms or personal pattern norms, are necessary as tools of specification and as standards of reference. The growth of the behavior

tree cannot be followed unless we are ready to make cross sections and inventories which will furnish us with normative pictures of developmental status. Individual variations can not be perceived, or expressed, except in terms of working norms. And in infancy the norms must be numerous, because growth is so swift. A vast amount of research will be needed to give these norms precision. Meanwhile it is important to recognize that such psycho-developmental norms are attainable, and that comparative standards of mental health are as legitimate and as feasible as standards of physical status. Even in our present state of relative ignorance it is possible to lay down for various ages of infancy and childhood certain concrete minimum essentials of mental health expressed in tangible behavior terms. The regulative concept of normality in the field of mental growth is just as valid as the concept of normality in the field of physical growth. Growth is lawful, and therefore permits of normative formulation even in the psychological sphere.

Norms are readily misused if too much absolute status is ascribed to them. In application they serve their best purpose when they are cautiously used as orientational specifications for interpreting the characteristics of the individual in terms of himself, rather than in terms of a statistical group. The scientific improvement of norms will lead to a more accurate regard for individual differences and a greater sensitiveness for those that are of significance in the protection of mental growth.

CHAPTER IX

OPTIMAL GROWTH AS A CHILD HYGIENE CONCEPT

THE FUNCTION OF STANDARDS IN THE PROTECTION OF EARLY MENTAL GROWTH

GROWTH is one of the most significant terms in the vocabulary of hygiene. In some respects the term growth, or development, has a meaning more pregnant even than the word health. Growth carries a more dynamic connotation; it organically ties the present with the past and directs it toward the future; it places an emphasis on the total economy of the individual and a premium upon personalized periodic supervision. This chapter will deal chiefly with the feasibility and desirability of applying standards of mental growth as an aid to promoting the mental health of normal children. Mental hygiene, as a phase of public health, remains a rather nebulous aspiration, unless we can translate it into some of the same procedures and approaches which general health work for children now embodies.

THE SCIENTIFIC STUDY OF GROWTH

What is growth? It is, of course, a concept to conjure with. If we try to formulate its innermost meaning we

are brought to the very margin of the mystery of life. Metaphysically, growth resists definition; and if we insist too stubbornly on a philosophical formulation of its nature, we readily fall prey to vitalistic and mystical modes of thought.

In spite of this metaphysical refractoriness, growth constitutes a scientific problem of major importance. Indeed, growth constitutes one of the central problems of biology. Conspicuously true is this in the fields of experimental biology, and in the new embryology with its emphasis on developmental mechanics. Anatomy has ceased to be a descriptive science dealing with static completions; it investigates the origins, the plasticity, and the modifiability of structure. Biochemistry is interested in the energetics of growth, and its regulatory factors. Biometry is interested in mathematical formulations of growth laws and constants. Psychobiology is concerned with the developmental nature and origin of all organic behavior, and with the genesis of both human and infrahuman conduct.

No phantasmagoria of fairyland was ever half so interesting as the experimental investigations of biological and medical science, which are now revealing bit by bit the mechanisms of growth. These investigations are picturesque in their diversity, but they also promise generalizing principles which will some day be synthesized from the accumulating data.

Growth is being studied in all forms of life: unicellular and complex; in plant and animal; in individuals

and in groups. Curves of growth have been plotted for microscopic colonies and for populations of the earth. Studies range from the minute cell-count delineation of the development of the nervous system of the salamander, to broad quantitative studies of the physical growth of the Chinese.

The experimental investigations deal in amazingly ingenious and daring ways with the alterations of the growth process. The growing organism is subjected to modification of temperature, of light, of position, of chemical and nutritional conditions. The limbs of the salamander are transplanted from one part of its body to another; the shell of the incubating egg is varnished; the growth of grafted embryonic fragments of the chick is observed in detail; the endocrine system of the tadpole is surgically altered to note the developmental results; growth disturbances are produced by radium emanation or by artificial changes in chemical conditions. Tissues detached from the body are preserved and "grown" in culture media.

Innumerable studies have been made through dietary modifications. Even the effect of irradiated sawdust on the growth of the white rat is known. Some of the dietary factors are so well understood that the rate and the character of the growth of the white rat can in considerable measure be manipulated by man. Under experimental conditions the scurvied palsy and inertness of the misfed guinea pig can be replaced by normal restoration of function. It can be done with amazing

quickness by the administration of a few miraculous bits of green lettuce.

THE VALUE OF SCIENTIFIC KNOWLEDGE OF GROWTH

The scientific attack on the problem of growth is of comparatively recent date. The countless studies now in progress will themselves grow in range and depth, and yield new insight into the factors which determine all growth.

It is well to remind ourselves that significant advances in the hygienic regulation of growth can come only through science and more science. The layman, possibly even the fundamentalist, should acquire a dim respect for those technical studies of the laboratory, which, though they may deal with the life processes of Amblystoma, or rat, have none the less a basic bearing on the interpretation of human growth. The fundamental laws of growth are so universal that they may be sought and found in any form of life.

We have a convincing example in the study of rickets —a growth disease of the child, which can be experimentally reproduced in the chick and in the rat. The problem of rickets has been approached from many angles, by the physiologist, the biochemist, the pathologist, the physicist, and the physician. Although there is much yet to be learned, the critical factors in the production and prevention of this common growth disease are becoming apparent. In the new knowledge of cod liver oil, sunshine, and the ultra-violet ray we have

brilliant evidence of the significance of science in human welfare—the significance of *prediction* and *control*. Dr. Alfred Hess has reminded us that this precious new knowledge has for the most part arisen during the post-war years. It did not fall from the skies; it did not spring from the seas; it is the lawful by-product of research both in pure and in applied science—in biological, physical, agricultural, and medical laboratories. If the world had been in firm possession of this new knowledge of rickets, with its implicit prediction and control, at the time of the World War, the nutrition and growth of thousands of children would not have suffered.

The significance of science in the protection of the welfare of children needs constant reaffirmation, particularly in America where we have glimpsed a vast latent fund of prescientific prejudice. It has taxed the wit of the race to acquire the medical knowledge which now permits babies to grow up, where they formerly languished or died. If this knowledge were cast overboard, there would be a return to imperfect folklore, to erroneous superstition; ignorance, quackery, and uncritical benevolence would assume control of the feeding of young children. Scientific medicine is the only safeguard against such a possibility; and the public health nurse as the vehicle of this scientific check is the everyday defense against a relapse into old conditions.

One of the prevalent quasi-primitive notions holds that growth is predetermined, that it is so natural that it takes care of itself, and that there is little to be done

about it. The too popular notion that the child will outgrow all his handicaps has a similar logic. Now the scientist would insist that growth is essentially lawful but also profoundly plastic. It is governed by certain limitations; but within those lawful limitations it is marvelously adaptive, and likewise lawfully responsive to both internal and external conditions. If in the laboratory, growth expresses this responsiveness at every turn, why can we not hope to bring the whole cycle of child growth gradually under greater control? The laboratory may never furnish us with the precise methods, but it has already provided us with the faith that systematic health supervision will lead to increasing regulation of the organic growth of children. Is not the concept of optimal growth becoming the new directing ideal in all child hygiene?

The fundamental advantage in this concept lies in the fact that it goes far beyond the traditional ideas of health and disease, and comprehends in a dynamic and relative way all types of children. It embraces the so-called normal child. In fact it places a new premium upon normality, and gives us the impulse for constructive as well as preventive measures for this normal child. The concept of optimal growth also reveals both the scientific and the practical value of standards of development.

THE VALUE OF STANDARDS OF GROWTH

There is some misconception as to the use of standards in the field of child hygiene. It is contended that there is great danger of overstandardization; that our whole civilization is overstandardized; that children are not factory automobiles. It is also sagely suggested that there is no such thing as a normal child; that all children differ; that no two are alike, and of all things we should avoid standardization of children.

Much of this argument, of course, is gratuitous. The scientific and the practical function of the standard in child-health work is measurement, not compression into a mould. The standard is a formula which represents a bit of information which may be used as a landmark of reference. We use the height and weight chart not to standardize physical growth, but to interpret it. Standards are the lenses through which we observe the child's growth to determine whether that growth is pursuing a favorable course. If we do not use clear, sharp cutting lenses, we cannot catch our problems early or make our treatment timely.

The hygienic supervision of physical growth, therefore, depends upon standards. We must admit that our present physical standards are extremely inadequate and even imperfect; but just as the evils of democracy can only be cured by more democracy, so the imperfections of standardization can only be corrected by more standardization. Indeed, this is just what is happening

in the scientific study of physical growth. Anthropometry is working out multiple standards and correlations which can be made to bear more discriminatingly on the individual variations with respect to growth. There is in Germany a new science in the making called "typology," which is endeavoring to elucidate the whole problem of mental and physical types, and this elucidation cannot be accomplished except through quantitative studies which inevitably lead to the formulation of standards.

Moreover, the individual clinical appraisal of any given case depends upon the application of standards. The more numerous and accurate the available standards in any given instance, the more adequate will be the clinical appraisal. Even in the fields of public health nursing, of social work, and of schoolroom teaching the importance of vital discriminating standards is constantly asserting itself. Professional training in these fields to a large degree consists in the acquisition of working and workable standards.

In the supervision of physical growth and bodily health it is certain that the development of technic will carry with it an increase rather than a diminution of standards.

In the field of mental hygiene is this not equally true? The very paucity of our public health provisions in this field may be due to a lack of workable standards and of practical technic. If the growing mind, like the body, is to come under systematic health supervision, we shall

probably need a greater equipment of standards and norms as a basis for procedure.

Or is the growing mind altogether too elusive, altogether too intangible, to be made an object of public health concern? If we cling too tenaciously to certain prescientific conceptions about the mind, the prospect of a health supervision of the mind seems nothing less than chimerical. But it is not necessary to be prescientific! It is not necessary to make an absolutely drastic distinction between mind and body. From a medical viewpoint we must approach the whole problem of the developing mind through the route of observable behavior. We should regard this behavior as a functional index of the physiological or the developmental status of the individual. Whatever academically our psychological theories may be, medically we are primarily interested in behavior as behavior—in the adequacy, the maturity, the balance, the completeness of behavior—in the ability of the individual to adjust his own life and to adapt it to that of others.

The growth of mind scientifically conceived, therefore, is essentially the development of a sequence of behavior values which are correlated with the maturation of the nervous system. From this point of view even the infant has a mental factor. Although the highly subjective psychologist might be reluctant to credit him with a mind, the psychobiologist would insist that the infant has a psyche which is already well in the making at the time of birth.

Even the infant has some degree of personality. His personality is a growing multitude of patterns of behavior: of eating, sleeping, playing, obeying; of liking, of disliking, of fearing, of avoiding, of assertion. Although these patterns of behavior bear the impress of his environment, they are also the expression of his native capacity and of his developmental maturity.

CHARACTERISTICS OF MENTAL HEALTH

In order to make the problem somewhat more concrete, we may venture the general question: What are the mental health characteristics of the normal child?

1. *Wholesome habits of eating, of sleeping, of relaxation, and of elimination:* These are often regarded as "purely physical" matters. Actually they are of basic psychological importance. They are ways of living; they require a proper organization of the nervous system. The child who is not well trained in these everyday habits has not learned even the first letters of the alphabet of nervous or mental health.

2. *Wholesome habits of feeling:* Here again we deal with the organization of the nervous system. Mental hygiene is much concerned with the organization of emotional life. Happily, the feelings respond to training. It is quite wrong to think that temper tantrums, morbid fears, timidity, jealousy, sensitiveness, suspiciousness, and other unhealthy mental states are beyond control.

The thoroughly normal child has positive emotional

habituations which make for good nature, for sociability, for self-control, and even for a measure of sympathy and coöperativeness. Consistent training and a favorable home atmosphere bring him under the spell of socialized goodwill. Through praise rather than scolding, through encouragement rather than domination, through happiness rather than failure, he acquires an elementary, optimistic philosophy of life. He acquires also a sense of values and a sense of security which are very important for his health of mind.

In his way he may also acquire a philosophic sense of humor, which can be set down as one of the prime essentials of normal mental health. This sense of humor will serve him well even as a child, and still more as an adult.

3. *Healthy attitudes of action:* Self-reliance is a cardinal virtue in the code of mental health. Growing up in the psychological sense means attaining sufficient stamina to meet the demands of life squarely on one's own resources. It is a steady process of detachment, first from the apron strings, later from the home itself.

Just as the grown soldier needs morale to stand the test of battle, so the young child needs a kind of self-confidence, which will enable him to meet the realities and discomforts of life. The ability to see reality is, of course, a mark of mental health. Therefore, the wise parent from the beginning builds fiber as well as happiness into the child's mind.

Normality of mind can, therefore, be formulated in terms of (1) wholesome personal habits of living, (2)

wholesome habits of feeling, and (3) healthy attitudes of action. Although these are broad specifications, it is apparent that they may be made very concrete in actual application. The goal of mental hygiene ceases to be nebulous when we make a genuine attempt to realize it in terms of child guidance and parent guidance. In the parent-child relation we have a very real point of departure which is accessible as a part of existing child health work.

DEVELOPMENTAL SUPERVISION OF THE PRESCHOOL CHILD

The welfare of the growing mind of the child hangs in no small measure upon the quality of this parent-child relation. It is possible to bring this factor gradually within the scope of infant welfare and child health center activities. Even in the regulation of nutrition, the physician and the nurse must reckon in behavior terms with this parent-child relation. The supervision of nutrition can thus be broadened steadily to include certain psychological factors which affect mental health. The practice of periodic reëxaminations should make it possible to give consecutive and systematic regard to this influential parent-child relation. It will be impossible suddenly to launch a comprehensive, all inclusive program of supervisory mental hygiene. It will not be impossible gradually to build up such a program by a judicious expansion and elaboration of our present arrangements for the supervision of the physical welfare of infant and child.

The nutritional supervision of infants did not begin with subtleties. The first step was to purify unclean milk and to cast out heavy solids like pickles and sausages. In the field of mental health likewise we might well begin with a similar reduction of the grosser faults of child care. These faults in all too many cases still include beating, slapping, and rough handling. Excessive shouting, scolding, threats, and bribes still figure too much in the daily lives of young children. A calm, kind, consistent parent-child relation is the most important essential in improving the mental health of these young children. Is it not possible that physician and nurse on hygienic rather than homiletic grounds can do some necessary spade work in this vineyard?

This discussion has been rested on broad and general arguments. If these broad considerations are sound, it is almost certain that the protection of mental growth will come increasingly under public health auspices. Growth, whether of mind or body, will continue to be one of the basic problems of biology and of medicine. Optimal growth becomes the basic objective of child hygiene.

CHAPTER X

THE PARENT-CHILD RELATION

Its Importance for Child Development

HERE is a concrete problem, which falls clearly within the field of hygiene. The first step toward a mental hygiene of child care is a genuine recognition of the relationship between adult and child as a plastic condition which yields to control. Parents are prone to focus on the child rather than on this relationship. Without any intention of being homiletic, we undertake in this chapter, a simple analysis of the psychology of the relationship itself.

The whole task of training children frequently is dominated by rather primitive conceptions. The parent pits himself (or herself) against the child. Training becomes a kind of contest between wills. Composure and the amenities of the home take recurring flights out of the window. An unwholesome tenseness or sense of conflict comes between parent and child. Affection does not necessarily leave; strangely enough it is often exaggerated and injudiciously demonstrative. And so we get all sorts of curious domestic mixtures—of kissing, threats, bribes, slapping, scolding, coaxing, laughter, tears, acquiescence, domineering, indulgence, anger, fear, candy, and closet.

Sometimes *all* of these various manifestations unfold with kaleidoscopic and dramatic swiftness, in five minutes between one parent and one child. If two parents and a grandparent are also present, the action may be swifter still. In such episodes, it is of course clear that the axiomatic importance of a normal parent-child relation is just the idea which the parents have missed. They think of the child's vices, of discipline, of their own prerogatives. The one thing they may fail to think of is the superlative importance of preserving, from day to day and from month to month, the most vital thing of all—a wholesome, consistent parent-child relationship. They think of a large number of specific problems when there is but one fundamental problem—namely, the normalizing of the relationship between the parent and the child.

A clinic dealing with behavior problems of young children frequently finds the parent's complaint expressed in such a way that it is perfectly evident that the mother (or father) conceives the behavior difficulty in governmental terms—as though child training belonged to political science, as though it were a colonization question of some kind. This results in autocratic attitudes, and a spirit of contest in which affection and antagonism grow side by side. One may see such aggressive attitudes germinating between mother and child even when the child is still an infant in his crib.

Surely in such cases the best thing that the parent could say would be: "Restore and keep the relation between us

healthy!" The actual details of child training are so bewilderingly numerous, and so dependent on common sense, that we must strike for sound, general principles. This is another reason for insisting that the interacting relationship between parent and child is the most vital psychological reality in the task of parenthood. It is the leading thread in the maze.

The dynamic psychology of the interaction between parent and child is full of hygienic suggestions. In our commendable zeal to emphasize the importance of the rising generation and therefore of all childhood, we have tended to make a kind of abstraction of the child. In a certain sense "the child," as such, does not, can not, exist. No matter what his hereditary endowment, no matter how strong his impulse to live, we can not conceive how he would have any personality growth at all, except for his reactions to the persons who care for him. The roots of that mental growth reach into other human beings.

Indeed the child's "personality make-up" so far as it is a describable, subsisting reality, consists in the countless conditioned reflexes, associative memories, habits, and attitudes which it acquires as a result of being reared by personal beings. If he were never touched by ministering hands, if he did not see and hear the evidences of humanity, if he could grow up in an absolutely social vacuum, it is difficult to believe that he would have any recognizable "personality make-up" at all. The balance, the topography, the well-being of

personality depend to a remarkable degree upon the impress of other personalities.

From the standpoint of mental hygiene, the growth of the child's personality must be safeguarded not so much through sheer management of the child as through the preservation of a wholesome relationship between parent and child. A few errors in managing specific problems, even some neglect and carelessness may be inconsequential if the tenor and the trend of this relationship are good.

Few organisms in nature live altogether alone. Their biotic or life sustaining environment includes other organisms of like or unlike kind. Life is adaptation, and constantly this involves an adaptation of one life to the other lives that impinge upon it.

There are three interesting forms of close life association or partnership recognized by the biologist: (1) Parasitism, in which one organism lives at the expense of the other; hookworm and malaria are sufficiently familiar examples; (2) symbiosis, in which two creatures who feed in different ways are agreeably and beneficially associated. The rhinoceros bird and the rhinoceros are a picturesque partnership of this kind; (3) commensalism, in which there is a mutually beneficial relation—messmates eating at the same table.

The association of parent and child, also, is a kind of psycho-biological partnership. It is infinitely more complicated than a mere nutritional arrangement, but it obeys similar laws of nature. In somewhat abnormal

instances we get an approach to parasitism,—an excessive dependence of a child upon his unduly anxious mother, who feeds him with a spoon in every sense of the word when he should be well beyond that stage. This is, of course, an unhealthy life balance. The mother may get certain emotional satisfactions out of the situation, but the child's personality is crippled in the process. He can not grow up to his mental stature unless he gradually acquires that independence of action and self-reliance which are at the basis of morale.

Training in morale in this psychological sense must begin in infancy, because self-confidence is indispensable to mental health. Parent and child must continually share as partners, but only in a manner which builds up mental fiber. The child must not only be weaned from the breast but must be gradually put on his own mental resources. He may not be altogether mature even as an adult if he does not achieve a full measure of independence from his mother.

From the standpoint of mental hygiene the family relations should be such that the child will not suffer either from undue dependence or conflict. Conflict, doubt, and insecurity are likely to develop in a sensitive child if there are frequent cross purposes between father and mother in the conduct of the home. Both parents must be essentially agreed and alike in their treatment of the child. If there is constant divergence, there will be two parent-child relations in one home—a vicious situation from the standpoint of mental hygiene and of

morals. The child is the very best reason for parents to sink all differences which interfere with the psychological integrity of the home. It is the child who often suffers the severest consequences of unhappy and of broken marriage.

To rear a child in the psychological sense is to regulate the parent-child relation in such a way that he has a maximum chance to grow up. Natural affection is not enough; it too frequently leads astray. There must be detachment as well as attachment; and the parent must be ever ready to assume a judicial, impersonal attitude.

This, it seems, is a very practical aspect of the problem of child management. One finds in clinical cases of malbehavior, of temper tantrums, and of faulty food habits, that parents commonly take a highly emotional attitude in these difficulties. They are impulsive rather than restrained, talkative when they should be silent, tense when they should be calm. It is the old story of aggressive parent *versus* child or child *versus* parent, when the problem should be viewed impersonally from the standpoint of habit formation. Emotional attitudes make matters worse rather than better; and many a problem would solve itself through calm disregard or good natured imperturbability.

An overemotional parent is not readily convinced of the value of such a policy; but feels obliged to show concern, to express disapproval. Such a parent is mystified by the tranquil ease with which a "difficult"

preschool child adjusts himself in a well conducted nursery school. One may see almost dramatic improvements in child behavior, when overstrenuous solicitude is relaxed.

Such instances prove that the child is not always intrinsically at fault in his behavior; but that he is unfortunately conditioned by an injudicious parent-child relation. When parents learn to take the calm, detached attitude of the expert teacher, many of the vexatious problems of the nursery age will disappear. The problems are vexatious because the parents are vexed! Nothing will be lost if the emotions are curbed and an impersonal, rational attitude is assumed. Only so can primitive methods give way to better forms of influence.

Here lies much of the educational philosophy of child training. The parent-child relationship is a psychological reality—part of the matrix in which the young child's personality takes shape. Far from being a mere academic abstraction, it is one of the most modifiable areas in the whole domain of mental hygiene.

CHAPTER XI

EARLY FEAR AND FORTITUDE

NORMAL AND HYGIENIC ASPECTS OF CHILDREN'S FEARS

THE psychology of fear has often been oversimplified. The subject has been treated as though fear were by nature an impediment to a child's development. Because many fears are undesirable and are the result of unfortunate experience, it does not follow that the instinct of fear is itself injurious or that it fails to obey in a beneficent way laws of growth and education. The positive and healthy aspects of fear need recognition as well as the negative and morbid. Both aspects will be considered in the present brief chapter.

To discuss the subject of fear in a constructive manner we must therefore abandon the suggestion that fear is an unmixed evil. Fearing is natural; often it is very wholesome, particularly in growing children. Fear like fire is useful in the right place at the right time; harmful only if misplaced and out of control. Like fire, too, it yields wonderfully to management. There are two kinds of management for fear: management from without by the mother's guidance and suggestion; management from within by the child himself.

One must remember that a child's fears are not inherited, nor are they the possessions of the devil. Fears have natural origins which the parent must try to understand before attempting to correct them.

If we make a psychological analysis of fear, what do we find? Whether it be in children, adults, or animals, we always find that fear has to do with escape from pain or danger. It is "anticipatory pain." Properly trained and educated, fear is a normal form of self-preservation. And ordinarily it can be kept within safe limits if the child is also properly trained and educated in fortitude.

What is fortitude? It is the ability to endure and to cope with pain. Now fortitude is a virtue which we can build up even in early childhood; it is important to attack and to forestall undesirable fears through training in fortitude. The key to many a perplexing problem in the management of fears and terrors lies here.

First we must consider the origin of fears, both troublesome and healthy fears. During the investigation of the mental development of some five hundred infants and children of preschool age, we had an opportunity to collect interesting data concerning the prevalence and variety of fears in early childhood.

Among this group of children were fifty babies just four months of age. Every baby, not counting a defective one in the series, blinked when an enamel saucer near his face was tapped with a spoon. Over eight out of ten winked when the palm of the examiner's hand was suddenly brought threateningly near their eyes. Nearly

all of the babies had "jumped" at sudden noises, like the slam of a door, the rumble of an autotruck, the striking of a clock, the yelling of a brother, or the ringing of a telephone. In several cases the babies had simply winced without crying, but in many instances a cry was part of the total response. Now the blink, wink, wince, and cry are all, in a sense, fear reactions. We shall not speculate as to whether these four-months-old babies actually felt what an adult calls the emotion of fear. They, however, behaved as though startled when there was a new, sudden alteration in their accustomed life.

The case of the baby who cried at the clock is instructive. When a clock is wound up, it is bound to strike. The clock would strike, even in the presence of the baby. With corresponding regularity, the baby cried, but not with the same inevitability, because the baby is a living organism and not simply a mechanism. The baby got used to the clock and entered the fifth month of his career unafraid of clocks. In other words, even an infant, through experience, can acquire a bit of fortitude!

Nature does not have absolute sway over human fears. The clock baby has an encouraging lesson. He proves convincingly that fears are "conditioned" and yield to the influence of habit and training.

Probably all fears are induced or conditioned by some kind of association or suggestion. Watson made significant studies on this point. His subjects were babies from one hundred twenty-five days to one hundred seventy-five days of age, who had never been out of a

lying-in hospital. His stimuli were a black cat and a white rabbit, a pigeon and a dark room. His results were negative; he found no evidence of inborn fear reactions to these objects. But he found that fears could be readily established through association and conditioning.

Since specific fears originate through a psychological process of association, it follows that they must be prevented and treated when necessary through conditioning and unconditioning. But it should be remembered that fortitude can be conditioned too; and this greatly increases the possibility of controlling the fearsomeness of growing children.

Prevention is always better than cure; so we may first consider how excessive or unreasonable fears may be avoided. The discussion of the origin of fears gives us the clue. Here are a few rules:

1. Do not plant the seeds of unwholesome fear, by false alarms, by undue worries, by expressions of anxiety, by exaggerated threats, or by imaginary bogies.

Be sensible with children at all ages. Untruthful threats about the policeman are fair neither to the policeman nor to the child. Bogies belong to primitive peoples, not to present-day children.

2. Keep the child, whenever possible, away from unnecessary and artificial fears. Do not let him go to movies which are absurdly terrifying or false to life. In the same spirit, guide his reading. Some juvenile

literature is more grotesquely fearful than it should be—even fairy-tales need a little moderation at times—but on the whole, good literature, like a good movie, is safe and provides fear experiences which enlarge the child's imagination and deepen his insight into life. Literature, like life, will introduce him to pain and evil and help him in the task of surmounting both. Good pictures can help him in the same way.

3. Keep the child's body fit. It makes for mental as well as physical resistance. Physical stamina reduces exaggerated or abnormal fearfulness. Fatigue, faulty nutrition, and physical handicaps undermine the native stability of the nervous system. A warm bath and a glass of milk will sometimes prevent an acute fear from developing or even banish a vague anxiety. Certain nightmares are pharyngeal, gastric, or intestinal in origin. If a child is weakened by severe illness or is undergoing a long convalescence, it is particularly important that he should be safeguarded from undue fears; but it is equally important that he be not overindulged, for ultimately, fear must always be combated through fortitude, and he must learn some fortitude even on the sick-bed.

4. Nourish the child's trustfulness in life. This trust will come chiefly by mental contagion and by subtle suggestion. Do not let him entertain suspicions, doubtings, and unsatisfied curiosity. These readily become the starting-points for insidious fears. If he is not seriously deceived, and if he has abundant experiences of success

in his work and play, he will acquire a confidence in himself which will fortify him against abnormal fear. Normal everyday living is probably the most decisive factor in the prevention of morbid fear; inherited predispositions are of secondary importance, for even a "sensitive" child can be trained to fear aright.

Notwithstanding, even in the best-regulated homes excessive fears of some kind may take root and flourish. How can such fears be managed? A common-sense study of the origin of the fear should be attempted. Every fear has its own peculiar history and its own treatment. However, a few general directions which apply to nearly all cases may be suggested.

First of all, respect the child's fear, whatever it may be, even if it seems to you altogether "imaginary." It has a basic cause and is a reality to the child.

Do not try to laugh it out of court by derision or shame. A sense of humor helps to turn the trick; but the best humor always has a quality of sympathy.

Do not try to scare him out of his fear by scolding or by false threat. This would simply be displacing one fear with another.

Do not, on the other hand, try to cajole it out by an equally false bribe or absurd reward. Remember that the problem is one of character formation and not one of "discipline," and that the problem will be solved only if the child acquires counteracting fortitude or familiarizing experience.

Get at the basis of the fear through questioning and conversation *with* the child, rather than through argument *to* him.

Do not attempt to destroy the fear altogether. (This is a common mistake.) Rationalize the fear, moderate it, temper it. Grant the child the privilege of fearing, but direct the fear and temper its intensity.

And once again, do not shame him for cowardice, but praise him for every bit of fortitude that he shows. Commendation will build up self-confidence, whereas condemnation can undermine it. And self-reliance is the very defense you wish to build up.

Let us attempt to apply these principles of management to a few typical instances.

Fear of the dark is common enough. To a degree, it is wholesome. We ought at least to be cautious in the dark; and caution is a controlled, intelligent kind of fear. In many cases it would be safe to admit, if you can do it reassuringly, that you are a little afraid of the dark yourself! Then try to find out why the fear is excessive. Unreasonable fear of the dark is usually based upon a nurse's wild tale, some scare from a playmate, or upon lack of familiarity with the true meaning of dark. If it is a dark closet of which the child is afraid, an exploration with a flashlight and a demonstration of its interior may be indicated. Do not try to banish the fear in one session with the child. Judiciously give him familiarizing experiences with the dark. Begin with dusk or with semidark places and

make the first experiences brief. Gradually lengthen them till the dark loses its strangeness and till confidence and caution take the place of quaking and dread.

Fear of the water is much like fear of the dark and needs the same kind of management. Progressive familiarizing experiences are the cure. Persistent excessive fear of deep water even after a child has learned to swim means a carry-over of an earlier fear of drowning. Accidental drowning is a dreadful form of death, and almost every child catches the dread from hearing about it in some way from his elders. Such dread can only be moderated by counteracting experiences in safety. As these accumulate, the dread will show a tendency to vanish. Do not try to drive it out by sudden force.

Fear of high places has a similar psychology, although there are physical reactions which make it somewhat more compulsive. But this fear also yields to reëducation and training.

Fear of dogs is one of the commonest of childhood fears. In some cases the child exhibits only a moderate fear which expresses itself in clutching at its parent's hand or in unwillingness to pass the dog; but in a large proportion of cases the child screams or runs away in terror. Moreover, we find many children who do not fear dogs enough, who are altogether too free with strange dogs! Evidently the problem again is to afford the child instructive, moderating experience and to substitute caution for terror.

Chronic shyness is too common and too serious to pass

without notice. I am not thinking of the ordinary timidity, which is really one of the charms of childhood and almost a symptom of capacity and quality. It is not satisfying to see such timidity altogether wanting. But there is a shrinking kind of withdrawal and silence which foretells an abnormal seclusiveness or a sense of inferiority that weakens the very corner stone of personality. I have seen too many such children in schools and institutions not to mention them here.

If the personality as well as the body obeys the laws of health, this species of fear is indeed unwholesome. And it can not be attacked directly by any known method. Only by developing a more robust personality sense through hand-work, plays, games, and social contacts can those fearful attitudes of inadequacy and of failure be starved out. Chronic shyness and silence should be taken as a signal that all is not well with the child. Stuttering, likewise, frequently is based on a perverse form of timidity.

Night terrors require skilful management. Indeed, they frequently need medical attention and medical insight. I shall, therefore, not attempt to give specific advice, but simply relate one incident which contains valuable suggestions concerning the general management of morbid terrors.

A certain five-year-old kindergarten boy had a history of night terrors dating back to the age of two. His family had begun to accept the terror as a matter of routine. Finally his kindergarten teacher learned about it and

consulted the boy's mother about the case. They discussed the problem and worked out a simple line of action. That night the mother had a free-and-easy talk with the child about the terror. The terror had chiefly to do with thunder and went back to a scare story which some nurse or governess had told him. The mother undertook to "rationalize" the thunder, to make it intelligible. She described it rather lightly as nothing but "two big heavy clouds way up safe in the sky that bump their heads and make a big noise about it!" The child's attention was arrested. He entered into the new view; he was reconditioned. He slept the night through without terror. Even if this method of procedure can not be applied uncritically to every form of night terror, the story is instructive.

Anxiety may become abnormal in duration and intensity—a corroding, besetting kind of fear. It then usually needs medical attention, and a specialist should be consulted. For example, we recently heard of an adolescent girl who developed a strange anxiety that the United States Government could not pay the national debt. The physician pointed out that this was a case in which the fear could not be dispelled by mere reasoning, for the fear was an oblique, compensatory outlet of a secret dread and doubting which concerned a very personal problem in the adolescence of this girl! A cure could come only by reaching this hidden source.

Even the most obscure and apparently irrational fears have some basis and therefore some justification. It is

very important to seek out the originating cause in these cases, and it is well for the parent to turn to expert guidance. In the lesser fear problems as they arise, the parent may do much through the old-fashioned remedies of sympathy, tact, and common sense. We may sum up the practical philosophy of the subject as follows:

Fear has a hygiene just as nutrition has a hygiene. Fear is a natural function which needs regulation and control. It is no more a disease than hunger.

What is the hygiene of fear? All fears and forms of fearing which promote the wholesome growth of personality are healthy; all fears and forms of fearing which warp or inhibit the growth of personality are unhealthy. This is the general principle, sound enough for application. To omit fear altogether from the child's life, were that possible, would be like omitting vitamins and salt from his diet. If he has normal experiences in the anticipation of pain and evil, he may gradually develop a normal immunity against pain and evil. If fear and fortitude are developed hand in hand, he will become resistant and sympathetic. Indeed, the elements of character are so contradictory that the full development of fortitude depends upon the experiencing and overcoming of fear. Wholesome fear generates its own mental antidotes. It is a kind of vaccination.

The concluding and comprehensive maxim, therefore, is a positive one. Build up the morale of your child daily, beginning with his babyhood. He must meet pain, error, injustice, evil all along the path to maturity, and

his main business, when an adult, will be to meet them as a man. But even in maturity he will meet them as a child if he has not learned to fear aright and if he has not acquired morale. It is foolish to attempt to rear him in complete innocence. Do not try to banish fear as if it were a ghost or a microbe, but give him instead the example and the pattern of fear controlled.

Fortitude is one of the sterner graces of the soul; but there is none that is more important for the art of everyday living and none which intelligent parents can more readily impart.

CHAPTER XII

THE ACCIDENTAL DEATHS OF YOUNG CHILDREN

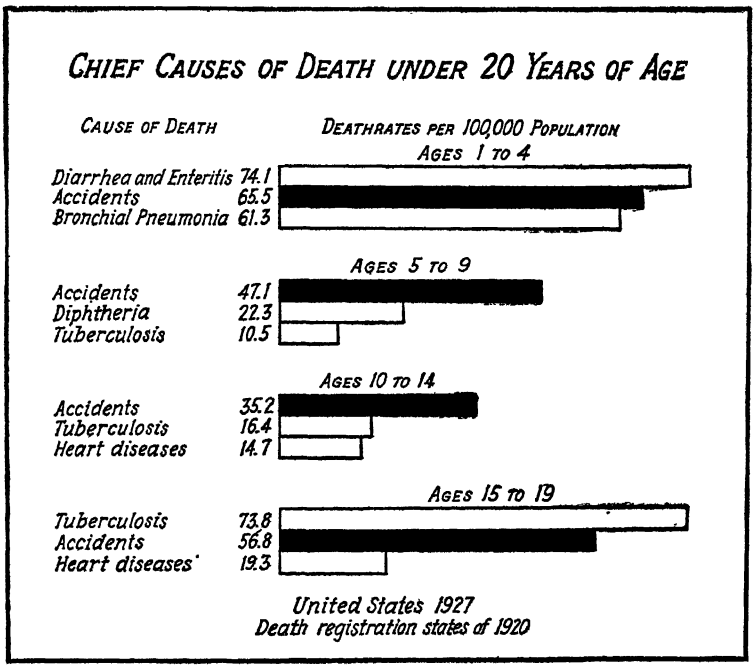
GUIDANCE AND TRAINING IN CAUTION

"A SIMPLE child, That lightly draws its breath, And feels its life in every limb, What should it know of death?" The death toll of accidents to young children has become so excessive, that the poet's question takes on a new and searching suggestion. Perhaps even the young child of today needs to acquire wholesome forms of fear and of caution which will better protect him from the more tragic possibilities of his man-made environment. Surely his elders should be aware of the nature and the extent of these possibilities. A careful study of the hazards of child life discloses the sober fact that many of the deaths and much of the maiming are entirely preventable through a better regulation of both adult behavior and child behavior. To this extent the problems are psychological.

CAUSES OF ACCIDENTAL DEATH

Accidents constitute the chief cause of death in children. This is shown in the accompanying chart, which pictures the three most potent causes of death for

different age periods under twenty years. In the age groups from five to nine years, and from ten to fourteen years, accidents outrank the two next important death causes combined. Even for the age period from one to four years, in which the intestinal diseases of infancy must be included, accidents are an almost equally important cause of death.



What is the nature of these accidents? Available statistics are so meagre and crude that the destructive physical and mental factors can not be calculated with precision; but even the bare classifications bring to view wide areas for preventive control. We wish particularly

to call attention to those accidents which befall children of the younger age groups.

The following table lists in order of importance the ten most common causes of accidental death at four age levels under twenty years:

THE TEN MOST COMMON CAUSES OF ACCIDENTAL DEATH AT VARIOUS AGE LEVELS

	Under 5	5–9 *Years*	10–14 *Years*	15–19 *Years*
1.	Burns	Automobiles	Automobiles	Automobiles
2.	Automobiles	Burns	Drowning	Drowning
3.	Suffocation	Drowning	Firearms	Firearms
4.	Poisoning	Falls	Falls	Railroads
5.	Drowning	Firearms	Railroads	Falls
6.	Falls	Railroads	Burns	Burns
7.	Conflagration	Conflagration	Other vehicles [1]	Mines
8.	Railroad	Poisons	Conflagration	Machines
9.	Other vehicles	Cutting or piercing instruments	Animals	Electric shock

The percentage distribution by age of principal types of accidents in the United States, 1927, is summarized in the accompanying table on page 177. These figures bring into startling relief the selective deadliness of street traffic, and the vulnerability of the preschool child at home. Automobiles and burns are the leading hazards of the first decade of life.

[1] Other vehicles—

(*From Bureau of Vital Statistics, U. S. Department of Commerce, 1927.*)

Percentage Distributions by Age of Principal Types of Fatal Accidents in United States.[2]

Age Periods	All Accidents	Traumatism by Falls (185)	Automobile Accidents (188–C)	Burns (179)	Railroad Accidents (188–A)	Accidental Drowning (182)	Absorption of Irrespirable or Poisonous Gases (181)	Traumatism by Firearms (183)
All ages	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Under 5 years . . .	9.5	3.6	6.2	36.9	1.2	7.9	2.0	4.2
5 to 9	6.3	2.0	11.1	11.6	2.1	9.3	.9	6.3
10 to 14	4.4	1.4	4.9	3.6	3.1	12.2	1.2	14.2
15 to 24	13.2	3.8	15.0	7.4	14.5	26.3	8.5	31.6
25 to 34	11.8	5.1	12.3	7.7	17.1	12.8	11.6	16.3
35 to 44	12.8	7.8	12.2	8.1	20.0	11.7	17.3	12.5
45 to 54	11.7	9.0	11.8	6.7	17.7	9.9	18.7	7.6
55 to 64	10.3	11.0	11.6	5.6	12.4	6.0	19.6	4.6
65 to 74	9.1	16.9	9.8	5.7	8.2	2.6	11.6	2.2
75 and over	10.9	39.4	5.1	6.7	3.7	1.3	8.6	.5

The chief statistician of the National Safety Council [3] has estimated that 4,000,000 home accidents each year are creeping into the nation's domestic life to cause suffering and death. About 24,000 of these accidents proved fatal in 1928, a total which is equal to that of all industrial accidents for the same year. In spite of the mechanization and industrialization of our age, the home must be reckoned with as a source of hazard particularly for the aged and the very young. Falls and burns are the outstanding causes of home injuries and fatalities. Fifty per cent of the fatalities from falls occur in persons above 65 years of age; as opposed to about 6 per cent

[2] Death Registration States of 1927. Figures in parentheses ( ) refer to number in International List of Causes of Deaths.

[3] For most of the statistical data here referred to, see a bulletin entitled *Accident Facts* (1929), issued in Public Safety Series No. 21, by The National Safety Council, Chicago.

for children under 5 years old. But the reverse is true for burns. Twenty-eight hundred children under five die annually from burning and scalding. A similar number of all ages die annually from asphyxiation and suffocation. The helplessness of the young comes into peculiar prominence here. Of all the deaths due to mechanical suffocation, 75 per cent are children less than 5 years of age, and 97 per cent of these are under 1 year of age. Babies must be tucked away with care. They may smother.

Home Fatalities, by Age Victim and Type of Accidents 1928.
(Data from certain Police and Health Departments.)

Type of Accident	All Ages	0–4	5–14	15–54	55 and over
Total	2,540	366	218	941	1,015
Falls	1,040	41	50	288	661
Burns, scalds and explosions	656	195	102	221	138
Asphyxiation and suffocation	410	70	8	218	114
Poisons	210	36	14	115	45
Cuts and scratches	59	4	10	24	21
Other home accidents	165	20	34	75	36

The distribution by age of 2,540 home fatalities, reported in 1928 by a group of police and health departments, summarized in the table above serves to illustrate the general facts just mentioned. The significance of such figures from the standpoint of accident prevention and safety education become more concrete if we visualize them in terms of matches, gas jets, gas tubes, stoves, kettles, pots, electric irons, unlighted stairways, unguarded windows, bottles of poison. To some extent

these hazards as physical factors can be reduced by mechanical means. Yet in last analysis, the objective instruments of disaster are not as consequential as the modifiable factors of human behavior, both in parent and in child.

THE PSYCHOLOGY OF CAUTION

This leads us into a new field for safety education. Systematic safety education has been conceived and organized chiefly in terms of school children. In spite of some error of method this education has accomplished indisputably positive results among children who can read slogans, interpret posters, learn rhymes, and listen to admonitions. But the great field of safety education for children of preschool age remains almost untouched. This in spite of the fact that the young child is the preferred victim of several types of accidents in the home and on the highway.

The problems of safety education in the home will require new methods of approach for their solution. No simple campaign using the ordinary devices of propaganda and group instruction can succeed. Infant and adult alike must be reached, to say nothing of brothers, sisters and associated persons in the home. The fundamental training must be accomplished through the regulation of family-child relationships; and first of all the parent must be educated with respect to the dangers and to the philosophy of caution.

Caution is no simple art. Phrenology attempted to

simplify the problem by locating a special faculty under a restricted parietal eminence, the bump of caution! But the psychology of caution when analyzed proves as complex as that of insight. Caution, moreover, has far-reaching ethical implications. The importance of caution for morals and for child training has been obscured by the romantic notion that children should be spared from fear; that they should be reared in blitheful innocence of the evils and the dangers of life. There must be some genuine recognition of the ethics of caution for a fundamental psychological approach to the reduction of home accidents.

Like any virtue, caution may be abused, distorted and displaced. Pathologically it may even develop into a phobia. And yet caution remains a virtue or an attitude which is so important for survival that in some measure at least, lower animals share it with us.

The comparative psychology of caution is not without suggestion. For example one finds significant individual differences in caution in riding-horses. One horse may be sure footed and wary on difficult or icy ground, where another horse of equal, or possibly even superior, intelligence, will be extremely untrustworthy. Such caution is of value both for man and beast. Other things equal, the child who shows a judicious degree of caution in the situations of everyday life is better equipped and better organized to meet life than one who is uncritically careless or courageous. After all we must rest our philosophy of caution, not on the basis of a skin-

saving fear complex, but on positive and constructive grounds. "He who leaps into the 'dark' of some sharp accident and takes a mitigable chance only wastes an unadventured soul."

The genesis of caution in infancy would repay careful study. Fearsomeness and caution are at first closely allied. We find early expressions in connection with tentative approaches to a hot bath, or frank avoidance of a hot radiator at nine months; inhibition of forbidden acts occurs before twelve months; heedful regard for breakable chinaware at eighteen months, etc. A well-trained child of three years can be trusted to carry his grandfather's spectacles for him. Some children are trained to cross the street alone by the age of three years. In a normative study of average children we found a small percentage who went independently on errands at the age of three years. The child of four years is often allowed to go on errands around the block. Two out of three kindergarten children from four to seven years of age are reported to cross the street alone.

Mothers, in reporting answers to the question: "How do you train your child to be cautious when crossing the street?" seem to place an emphasis on explaining and admonition. These answers suggest very strongly the necessity of bringing the educational psychology of caution more definitely into the consciousness of both parents and kindergarten teachers. Sometimes the repetitive, worrisome, or scolding insistence on caution is only a form of relief for the mother, expressing her

subchronic state of anxiety. Frequently there is too much reliance placed upon warning words or on descriptions of disaster. Often there is excess emphasis on fear as fear. One mother, for example, said she trained her child to be afraid. Training a child to be afraid is a very different matter from training a child to be constructively cautious. Caution has elements of fortitude as well as of fear. Active caution should resemble courage more than timidity. If the child is unduly afraid, he can not be duly cautious. He can not be duly vigilant, prudent, heedful, circumspect, wary. These are the positive synonyms for the psychological state of caution.

A basic attitude of wholesome caution can be taught to young children; but the actual patterns of caution to be exercised in concrete situations demand a certain finesse both in pupil and teacher. The complexities of the problem came under my startled observation in the following incident:

A group of three alert, tidily dressed girls, about four years of age, were about to cross the street. The leader looked intently before her, and then keeping her eyes to the ground, started to run decisively across the street. One could not describe her behavior as either careless or panicky; but she was evidently darting in order to get out of danger as quickly as possible. In so doing she ran blindly against the side of an automobile which was approaching at a fairly rapid rate. The whole thing resembled Blind Man's Buff, because her gaze was averted to the ground and she literally stumbled against

the body of the car. She bruised her knuckles, but was otherwise not injured. She began to cry with excitement and retraced her steps. If she had crossed one tenth of a second earlier, the result might have been fatal to herself, if not to her companions.

This near accident raises some questions concerning the nature of caution. Technically, the driver of the car was not at fault, but cautious driving does not consist merely in following an open roadway. It requires a regard for marginal factors. A reasonable driving caution would have made the driver aware of the children on the curb and would have prompted a precautionary reduction of speed. As for the child who nearly came to grief. She had caution, but did not know how to exercise it. She needed a more careful training in the art.

THE CHILD-DEATH TOLL OF THE AUTOMOBILE

Statistics show that 35–40 per cent of the deaths due to the use of automobiles in 1929 were of children under 15 years of age. It is estimated that there were more than 31,400 automobile fatalities in the general population of continental United States and that approximately 1,000,000 were injured in the same year. These figures include both occupants and pedestrians. When the figures are analyzed with reference to age, it proves that the death rate is especially high for the period from three to nine years of age. The four years from four to eight

yield about as many deaths as all the remaining years of childhood put together.

For example in one year (in 1929) 72 children pedestrians under fifteen were killed in Connecticut. Ten of these children were four years old; 50 children (70 per cent) were 3, 4, 5, 6, 7, or 8 years old. On April 13 a metropolitan newspaper carried the following head line of the past day's death toll: *"Seven Children Die in Auto Accidents. Angry Crowd Menace Taxicab Driver Who Runs Down 3-year-old Boy. Four Killed by Trucks, Five Victims Lived in Brooklyn—Two Others in Jersey City—Eldest is 9 Years Old."* The age distribution of the child victims of this day's toll was typical: Salvatore, age 3; Nicholas, age 5; Albert, age 6; Abraham, age 7; Edward, age 8; Cornetta, age 8; Solomon, age 9.

A preponderance of boys is also typical. When fatal automobile accidents are classified by sex and age, the death rate per 100,000 in the United States (Registration states, 1927) the figures are as follows:

	Boys	Girls
All ages	29.2	10.6
1 yr.– 4 yrs.	17.1	9.6
5 yrs.– 9 yrs.	28.7	13.7
10 yrs.–14 yrs.	15.5	4.7

The death dealing automobile of today has singled out the young child as its most shining mark. Death and accident statistics are the dial on which we read the hazards of civilization. The dial points to the child

from four to eight years of age as the most frequent victim of the traffic of the highway. There is danger all along the line; but it is the young child, the care-free child of preschool age, and the school beginners, who are most readily maimed or killed by the automobile.

Draw a curve of the fatal automobile accidents of the city, the state, or the nation; draw a graph to show the distribution of the accidents for all ages from infancy through the seventies, and the period of early childhood stands out like an overtowering mountain peak. It does not lessen the tragedy to know that there is a concentration of fatalities and injuries about these tender years; but it helps us to better understand our problem and to reckon with a solution.

These are indeed vital statistics. Although they indicate traffic danger all along the line from infancy to old age, they show that the most dangerous accident sector in the whole life cycle is that of early childhood—the years of the nursery, the kindergarten and the primary school. Must we not devise special safeguards for this dangerous sector? Our safety campaigns have, perhaps, been too general. We must plan special procedures suited to the peculiar liabilities of early childhood. And to plan, we must analyze the factors behind the death figures.

THE CAUSAL FACTORS

What are these causal factors? The physical factors are plain. The streets are narrow; sidewalks are still

narrower; play space is limited. Brakes are not instantaneous. The automobile is physically more powerful than the child's body. From this point of view the situation is extremely one-sided, and it is, of course, in favor of the heaviest battalion. Physically the dice are loaded against the child. We may even say that in a purely physical sense our life-saving problem can not now be solved. The engines, as engines, win. And new engineering in the physical sense must supply remedy.

But there are mental factors too. And these factors always count in the game of life and death. The game need not be played without regard for the loaded dice. We can study the mental factors and bring them under some control. We can at least flatten down the mountain peak in the death curve.

Where should we look for these controlling mental factors? In the driver, in the child, and in the parent.

THE DRIVER

The life-saving mental factor here is caution, and still more caution. The younger the unattended child, the greater the hazard. This is a simple rule, but it is just the rule that gets its work into the mortality tables. It should mean to the driver that the younger child needs a wider berth and a greater precautionary reduction of speed. It means that the casualty risk is high even during school hours, because it is then that the preschool child may wander or rush into the traffic path. The unattended run-about child may dart from sidewalk,

from curb, from behind a parked auto. He is often lurking in hidden corners. General caution is, of course, a general duty. Selective caution is a life-saving virtue and gives the young child a preferential wariness. His behavior is less predicatable, less stabilized. The driver owes him double caution.

THE CHILD

The very nature of early childhood seems to disqualify it for the dangers of street traffic. And yet it would be wrong to suppose that even the young child has not within him a mental factor which can be used to reduce the toll of accident.

He has remarkable powers of learning and of adaptation. To begin with, nature gave him a general tendency to fear and to avoid that which is harmful. It is this general tendency which we must train into countless habits of caution, of restraint, and of inhibition. If this training is properly done, he will not be over timid, or cowardly. He will simply learn as a matter of worldly wisdom certain ways of behavior which will keep him out of harm's way.

But he must learn through definite habit training, through association, and through force of social approval and social disapproval. He can acquire nothing through mere instinct.

Thus, even by the first birthday he learns to stop certain acts of violence and destruction because of the constant interference of his mother's suggestion. In a

measure he learns the meaning of "No, no!" When he gets on his feet and walks about, he has many a fall, but every day he learns to take better care of himself. In fact, during all his preschool years he is constantly under the necessity of acquiring caution in the countless shifting situations of life. He learns all sorts of cautions within the home and within his own yard, so that he becomes increasingly independent and self reliant.

He learns the major cautions of the home because of the constant training which he receives there. If we could give him the same kind and degree of training in caution on the street and on the sidewalk, he would be just that much safer from accident. We must protect him by physical safeguards and by not giving him too much freedom, but such protection should not take the place of consistent training in caution.

This training in caution may begin with his first experiences on the street even when he is a two-year-old child tightly holding his mother's hand as she ventures across the street. He should be taught to look in either direction and catch the spirit of caution which his own mother embodies. If on every possible occasion he gets this positive kind of habit training between the ages of two and four years; if he incorporates this highway caution into his muscles and into his feelings; then he will be better organized against the hazards of the street.

Through such consistent habit training and concrete lessons we can build up the factor of safety even in the young child. Safety is not a matter of age as such. It

is a matter of training and of attitude. Two years of unremitting training in caution between the ages of two and four are indispensable to any plan of safety education. We must not wait until the child goes to school to teach him the alphabet of safety on the street.

THE PARENT

If the child comes to disaster, the anguished driver will be the first to say, "Oh, why did they let him go so free?" Whether and when any child is ready for the full freedom of the streets the parents alone can decide. No one can decide for them. Some streets are more dangerous than others; some children are by temperament and by intelligence more trustworthy than others of the same age.

If the journey to and from school has its hazards, the parent should scheme to secure the regular protection of a responsible companion for her child. An older brother or sister, a pupil from the upper grades will be a safeguard. Kindergartners and primary teachers can give much practical help in systematizing such convoy arrangements.

Here we have another important mental factor—the powerful one of mutual aid and of common-sense foresight. If we could enlist still more methodically the boy scout and girl scout protectiveness *in the interests of the young child,* we should unquestionably lower the death toll.

To the parent, however, falls the main task both of

training and of protection. In the primitive life of the American Indian, it was of course the mother and father who instilled caution and bravery into the growing child; taught him how to avoid and how to meet peril. The complexity of civilized life has tended to blur the primitive intimacy which used to bind parent and child together in self-protection. We have come to rely too much on placards, slogans, and schools to teach the lessons of life. The more basic lessons can be taught only through the home.

If we wish to teach a basic kind of caution to the young child, we must live with him on more intimate terms and impart more directly the instruction and guidance of self-dependence. If we were living in the forest, like the Indian, it would all be done quite naturally. It would be done in such a way as to strengthen the child's confidence as well as his safety. And it can be done even in the motor-infested city if we make the right mental approach.

THE MENTAL-FACTORS CONTROL

The hope of reducing the constant sacrifice of young children lies then in the realm of the reason and the spirit. The problem is fundamentally psychological as well as physical, and part of the solution must come in the deliberate control of the mental factors.

The annual child sacrifice shall not have been altogether in vain if it leads to more considered ways of living. So sensitive is the balance of social life that we can

not neglect a single mental or moral factor in our effort to save individual lives. The cordon of safety is made up of uniting links. The motor vehicle death rate will not decline until jointly in driver, parent, and child we raise the attitude of caution to the level where it means genuine respect for life.

. . . . . .

The four young years from four to eight yield about as many automobile deaths as all the remaining years of childhood combined. It would be a sad commentary on the trend of our civilization if the young child should continue to be the preferred victim of the machine which symbolizes our age.

CHAPTER XIII

CLINICAL GUIDANCE IN INFANT ADOPTION

Reducing Psychological Risks in Adoption

THE problem of child adoption continues to assert its great social importance. Well over a quarter of a million children deprived of parental care are at this moment under guardianship of public and private child-caring agencies in the United States. There is a constant turnover which greatly augments these figures. Pennsylvania, through some 200 child-caring agencies, annually cares for 25,000 children; Massachusetts, with about 75 agencies, cares for some 15,000 children; New York, with about 200 agencies, cares for 40,000 children. Each year, for the country as a whole, probably over 50,000 infants are born out of wedlock. A recent report showed that there are 70,000 "out of sight" children being cared for in state institutions in Great Britain; of these, 11,000 are children under three years of age in workhouses.

These figures, incomplete as they are, indicate the social magnitude of the problem of dependent children. Although large numbers of these children are not available for adoption, because of the existence of family

ties which should be preserved or for other reasons, yet in planning for the future of many of them the possibility of adoption is an important factor to be considered. Safeguarding adoptions in every possible way is seen to be an urgent social need.

PSYCHOLOGICAL FACTORS IN ADOPTION

Moreover, large numbers of men and women who have been denied the privilege of parenthood give serious thought to the possibility of adoption but are deterred by a vague fear of risks involved. To such would-be foster parents careful clinical investigation and guidance will serve as a stimulus and a protection. Policies of painstaking clinical control will therefore increase the number of suitable foster homes and multiply the instances of fortunate child adoption with its incalculable benefits and rewards.

This chapter will deal briefly with what might be called the psychological risks of adoption. Where are the risks? First of all, we must look for them in the mental make-up of the parents who seek to adopt a child. Although we touch, here, deep and sacred springs of mental life, it is important to ascertain, at least, the soundness of the motives which impel to the proposed adoption. Sometimes the husband and wife are not clear or confident about these motives; sometimes there is conflict between husband and wife in the matter. Occasionally there may be latent jealousy, as unfortunate case histories of adoption have too often proved. One parent

comes to resent the affection which the other gives to the newcomer child. Strangely enough, the impulse to adoption may in exceptional instances even prove to be essentially selfish. Again one finds profound ignorance of the meaning of childhood. We recently heard of a foster-mother who had so little appreciation of her problem that she was obviously disappointed when she found that her adopted infant would not always remain in the state of infancy! She had always wanted to adopt a baby, but when she did so, how soon the baby grew!

Fortunately, mere ignorance about the nature and needs of children can be overcome by experience and training. When the motives for adoption are basically wholesome, adoptions have a way of working out to a happy issue. Good judgment and skill of management are valuable assets in rearing a child, but the governing factors are the emotions, the ideals, and the subconscious desires of the parents. In the long run the success of adoption hinges on the fundamental attitude and the fundamental philosophy of the foster parents. This is one reason why happy adoptions are to be found at every social level where health of mind is characteristic of the foster parents.

From the standpoint of risk and prevention it is very important to discover all those instances where an unstable or even neurotic trend endangers the altruistic outcome of adoption.

It is far from our intention to exaggerate the risks of adoption; we are concerned with the recognition and

reduction of such risks; but here, as in so many other situations, the protection of the mental welfare of the child must begin with measures directed to the parent.

In the interests of parent and child alike, purely impulsive adoption should be discouraged and the whole procedure should be surrounded with clinical and supervisory safeguards. In all cases of adoption there should be an exhaustive inquiry into the health condition and developmental potentialities of the child. A thorough physical examination is essential, but no less desirable is a psychological estimate which will define in a general way capacity and developmental outlook. A probationary period of a full year, with follow-up examinations, may be utilized to correct this estimate, as well as to test the compatibility of the child and his foster parents.

It will still be necessary, however, even when clinical procedures have become more accurate, to utilize every possible additional safeguard, including sometimes the temporary boarding home where the child can be observed, trained, and prepared for placement. But methods of clinical control may be made to reënforce all other precautionary and investigatory procedures. Even the probation period loses some of its value if it is not preceded and followed by clinical examinations. Such examinations furnish deterrent, confirmatory, or directing information. If, therefore, clinical control is judiciously exercised in relation to other methods of control, it must inevitably increase the yield of happy adoptions.

Infancy is in many respects an ideal period for

adoption. There is, however, no basis for the belief that native mental inferiority in a child can be overcome by early adoption. The reverse is true, even in superior homes. The present discussion emphasizes particularly the importance of psychoclinical safeguards in the adoption of infants.

The Yale Psycho-Clinic has made a large number of mental examinations of young dependent children referred to it by the State bureau of child welfare and by private child-placing agencies. Its official mental-examination report form dealing with dependent children calls for answers to the following questions:

(*a*) What is the child's intelligence? Superior? Normal? Dull normal? Inferior? Feeble-minded?

(*b*) Educational outlook: Could the child probably complete grammar school? High school? College? Or should he (she) have special class work? Vocational training?

(*c*) Does the child show any evidence of epilepsy, or is there any history of convulsions?

(*d*) Would the child be likely to do well if placed in a family home? If so, would you recommend an ordinary home or a superior home?

These questions are exacting enough, even in relation to county home commitment or temporary family-home placement. The questions become very searching when made prior to adoption and doubly difficult when the dependent child is a mere infant.

To what extent can these questions be answered? Fortunately, it is not necessary to answer them categorically and altogether without qualification and interpretation. There are, of course, no diagnostic methods which permit precise prediction. The intelligence quotient must be used with great caution because it may easily lead one astray. The difficulties of prediction become greater, too, the younger the child and the more detailed the specifications of the adoptive parents. The difficulties can not and should not be evaded, but a carefully considered clinical judgment of mental status, taking into account as many factors as possible, will make the work of child placement more discriminating and prevent gross error.

THE AFTERCAREER OF FOSTER CHILDREN

Significant in this connection are the results of an inquiry made by the New York State Charities Aid Association into the after careers of 910 children placed in foster homes, who are now 18 to 40 years of age.[1] Reference will be made particularly to those findings which relate to the problem of child adoption.

The findings of this study indicate that "the adopted subjects prove to be, for the most part, a capable group who manage their affairs sensibly and honorably." Of the 910 children studied, 269 were legally adopted. Of the

[1] *How Foster Children Turn Out,* a study by the State Charities Aid Association, under the direction of Sophie van Senden Theis. Publication No. 165, S. C. A. A. New York, 1924. 239 pp.

adopted group, 145 were foundlings and 45 more came from families about whom very little was known or recorded. The fact that 222 (82.5 per cent) of the adopted children were taken by their adoptive parents when less than 5 years of age doubtless conferred upon these children an environmental advantage. Of 235 (88 per cent) of the total adopted group whose present situation and ability were ascertained, 207 were found "capable"; that is, they are "proving capable of looking after themselves, of supporting themselves and their families if they are married, and of maintaining decent standards of living and morality." The remaining 28 subjects (12 per cent of the group) were classified as incapable, and of these 14 were rated as harmless. This means that in this particular series of adoptions made in New York from 1898 to 1922, every ninth case was disappointing or short of standard expectation. One hesitates to call even these cases "failures," because the human factors in the situation frequently triumph and bring about an adjustment. But the fact remains that ideally there should not be a "miscarriage" of 12 per cent. Every good adoption home must be considered so valuable a social asset that maximum use will be made of it.

There are 217 foundlings in the New York study group. The present ability of the foundlings to "manage themselves and their affairs with ordinary prudence" was ascertaintd in 180 instances. "Of these, 154 were capable of managing their personal and social lives without coming into conflict with accepted standards of

ethics, were not a burden in any way upon society, but were for the most part sharing its work and its obligations. Twenty-six were incapable."[2] Again the picture "on the whole" is favorable; but it means that every seventh foundling may prove to be a disappointment to his foster parents. Must not the risks of such disappointment be reduced?

These figures emphasize the need for clinical control of early adoptions. For although the "general" results were good there was a significant minority of cases in which the outcome was not reasonably satisfactory. The report itself, while recognizing the interacting complexity of the varied factors involved in adoption, grants the possibility of reducing the number of misfits by better facilities for preplacement diagnosis, treatment, and observation. In a task so complicated, we may be certain that there would have been an appreciably larger number of misfits in the period from 1898 to 1922 if the foster homes had not been selected and supervised with great care by the New York State Charities Aid Association.

The same general conclusion is reached when the results are studied from the standpoint of the mental status of the child's parents. In 155 instances the investigation showed serious mental limitations in one or both parents. The general level of development of this foster group and their capacity for acquiring formal education were definitely below that of children with more promising

[2] See also *Foster-Homes Care for Dependent Children, 1926.* U. S. Children's Bureau Publication, No. 136 (Revised).

background. To be sure, it was found "that more than two thirds of those who had what seemed to be a most unpromising of all possible starts are rated as capable." But again there is a sizable minority whose lower potentiality might perhaps have been discovered through discriminating clinical preplacement investigation.

One of the most suggestive general findings and impressions which has emerged from the New York study relates to the significance of the age of the child at the time of placement or adoption. "The children less than five years of age when placed with foster families showed a good development in every way in a larger proportion than those who were placed when five years or more." [3] This conclusion strengthens the argument that the preschool period of child development is fundamentally the most determining. In this period of swift growth and of ceaseless adaptation the personality make-up of the child is in constant process of formation. The child can not be made over entirely even at this early age, but he responds more profoundly to the influence of home life than he will later.

PSYCHO-CLINICAL DIAGNOSIS IN INFANCY

From the standpoint of child adoption, therefore, the situation involves a paradox which contains an element of hazard as well as of promise. Infancy is the best time for adoption, but in the nature of things it is also the

[3] Ibid., p. 163.

time when developmental prediction is most difficult. Can the hazard be reduced?

It can, if the development of infancy is essentially lawful; because all lawful phenomena, even the most complex, are theoretically within the scope of scientific formulation and forecast. It will be a long time before astronomical accuracy is attained in this field, because a child's orbit is not so simple as that of the sun and the moon. But that it is necessary to remain indefinitely in the dark would not be admitted even by those students who have gained the most knowledge of the intricacy of living things.

Infancy is the period of most rapid growth in the whole life cycle, except, of course, the intrauterine period of which it is but an extension. This very fact simplifies, more than it encumbers, the task of developmental diagnosis. The infant to be sure is very immature, which tends to make him inscrutable; but, on the other hand, he matures at an extremely rapid rate, and this tide of maturation brings him more repeatedly and more cogently within the purview of systematic observation.

The changes which the infant undergoes from the age of 4 months to 6 months, from 6 to 9 months, from 9 to 12 months occupy chronologically a short span of time; but from the standpoint of developmental economy they may be equivalent to the progress which in later childhood it will take him several years to accomplish. It is assumed, moreover, that the infant is father of the child,

just as the child is father of the man; and that the characteristics of the infant during the heyday of growth have some coherent relation to the characteristics which will emerge in later life. The rate and limits of his growth may also be foreshadowed by the manner and the fullness in which he makes the first stage of his developmental journey, say from 4 to 12 or 18 months.

In principle, these considerations have a bearing on the question whether in time the adoption of infants may be brought under more adequate clinical control. The greater speed of growth has very practical diagnostic implications. It means that a probationary year prior to adoption may be made to yield more evidence in infancy than at any later period. In the first year of life four periodic developmental examinations may readily be made to determine the increments of mental growth, whereas a few years would be necessary to observe as many comparable increments in later childhood. The older a child is, the longer it takes to make a definite developmental advance; and so it follows that the diagnostic values of a probationary year tend to vary inversely with the age of the child.

The Yale Psycho-Clinic has had an opportunity to test the application of this principle in actual clinical examinations of infants and young children. The diagnoses of developmental status have been made with the aid of schedules which list normative items in the fields of motor, language, adaptive, and personal-social behavior.

By means of these schedules it is possible to make a somewhat detailed descriptive and analytic record of the developmental status of a child in terms of capacity and behavior. Purely numerical formulations are avoided. A premium is placed upon descriptive, interpretive diagnosis, and the importance of a unifying comparative approach is emphasized.

Several case studies are assembled in the following pages to illustrate the clinical aspects of child adoption with special reference to infancy. The reader, however, must not be left with any misconception concerning the automatic precision of the diagnostic procedures above outlined. They do not operate automatically at all; their final usefulness hinges upon trained clinical judgment. The normative developmental schedules, however, furnish an objective basis for the construction of a considered estimate and for a comparative evaluation of successive examinations. In this sense they favor verifiable as opposed to intuitive appraisal.

Finally it must be remembered that all diagnosis deals with probabilities and not with absolute prophecy. It is here the aim to reduce the likelihood of error in such important situations as placing a child in a foster home. In simplified instances there is a positive diagnostic probability of nearly 100 per cent and a corresponding certitude of prediction. Below this 100 per cent standard of certainty there is a diminishing gradation of probability; but scientific method will increase foresight and make child-placing efforts less erroneous.

There is occasional danger that the demand for prediction will be pushed too far by child-placement agencies. It is also true that certain foster parents are unreasonably detailed and exacting in their specifications for their desired adoptee. Such parents should know that adoption must retain some elements of faith, adventure, and sacrifice.

But neither the faith nor the adventure need be blind. The instinctive and rational safeguards of marital mating are not present. Clinical safeguards must be supplied. When a child is given and taken in adoption the probate law decrees that he shall be "as though born in wedlock." And adoption, like wedlock, should not be lightly entered upon.

CASE ILLUSTRATIONS OF CHILD-ADOPTION

The clinical aspects of child adoption can be discussed most briefly and concretely by means of a few illustrative cases. These cases, nine in number, were selected because they are instructive and in a sense typical; they are by no means unusual. They have not been invented [4] but have arisen in natural course. They are representative of those situations in which the importance of clinical control asserts itself most clearly; but it must be remembered that so-called exceptional cases can be discovered only by incorporating clinical safeguards as a regular procedure in all instances of adoption. The

[4] Inconsequential disguise has been introduced into the case reports to prevent any possibility of identification.

cases which seem "perfectly all right" in the eyes of all the well-minded adults concerned may be just the cases which need careful investigation and clinical appraisal. Perhaps the first case presented below will illustrate this very point.

A Blind Adoption—Child A (age 6, 9, 12, 24 months)

This child was first examined as a mere infant, at the age of 6 months. She was a foundling and was seen at a child-welfare station. Although she was poorly nourished, her general appearance was relatively normal. She smiled, cooed, followed moving objects with her eyes, gave transient regard to a dangling ring. But she did not reach for the dangling ring; nor could any object entice her to reach. Her developmental status was estimated to be at the three-month level. A diagnosis of mental deficiency was made, and the agency then supervising the child was notified.

Parenthetically it should be stated that from the standpoint of developmental diagnosis a retardation of 3 months at the age of 6 months is of serious import. At the age of, say, 5 years this degree of retardation, if measurable, would be quite negligible. Here it denoted nothing less than feeble-mindedness. The subnormality of nutrition did not cause the retardation; time could not overcome nor circumvent it. Indeed, by the age of 2 years the actual developmental retardation increased to 12 months. This, however, was but a lawful lengthening of the shadow, not a deterioration. At the age of 2

the child "looked" more defective; but she was in reality the same child who had been seen at 6 months.

When 9 months old A was reëxamined. She approximated the four-month level of development. Nothing would induce her to reach even now. The dangling ring was attended to with more fixed and prolonged gaze, but there was no other reaction toward it. The diagnosis was confirmed.

At the age of 12 months A was again examined. Now the behavior picture changes. She goes out with avidity to every object in her reach. She grasps the dangling ring; she seizes a piece of writing paper and crumples it with lusty vigor. She is now in good nutritional trim; she looks attractive; she bears no obvious badge of defect anywhere; and she is so reactive to the play material given to her that she makes an excellent impression. The baby is physically well developed; she evidently has a good disposition; she is alert. Surely she is adoptable! In a sense she is a fine baby—but only in the sense or in the equivalence of a 6-month baby. However, she is 12 months old; she is still mentally deficient.

It was at this time that this child was placed under the supervision of a second agency; and it was necessary to make a rather emphatic report concerning her developmental outlook because the plans were to have her adopted.

At 18 months she was reëxamined. Her developmental level consistently approximated nine months. The shadow is still lengthening. At 24 months she was

examined once more. Her developmental level was clearly 12 months. She behaved very much like a normative 12-months-old baby. The diagnosis of mental deficiency was now confirmed beyond dispute.

And the moral? Well, just before the last examination she went out of the hands of the X Y Z agency, and she was adopted very soon by a very excellent and most affectionate foster mother, who does not know what she has done.

An Attractive Infant, but Subnormal—Child B (age 26 months)

This child was not seen before the age of 2 years. She was born out of wedlock. Concerning the mother there was only the brief annal: "she is untruthful and peculiar." The child was boarded in a high-grade family home where the foster mother became deeply attached to her and made plans for her adoption and education.

Postponement of adoption has been urged, because the child just now seems much brighter and "more acceptable" than she really is. She is in the "cute" stage of development which conceals her limitations.

In physical appearance she is atractive; in demeanor she is smiling, responsive, playful. She waves "bye-bye" very genially and plays gleefully with a ball. She is just the kind of child who would smite the heart of questing adoptive parents. If they yielded to the impulse of affection on first sight, they would then and there resolve to take her into their own home, give her every

educational advantage, and rear her as a charming, refined daughter.

These parents would not be entirely disappointed, because the child is not definitely mentally deficient and her personality make-up is relatively favorable. However, the examination proved that she approximates the 18-month level much more consistently than the 2-year level, and the general quality of her attention was far from satisfactory. On the basis of all the clinical evidence it is extremely doubtful that she will ever be able to complete a high-school education. She may have some difficulty in completing the grammar grades. In 10 fleeting years at least the educational limitations of this child will be more palpably revealed; and there may be genuine pangs of regret.

The economic status and educational purpose of the parents are an important factor in this particular adoptive situation. If at the outset the parents are not ready to relinquish their educational expectations, another child should be sought. Some parents are quite content with a favorable, likable personality, irrespective of grammar-school success. Clinical safeguards and a probationary period will help to define the issues in advance and protect the interests of both child and parents.

College Educability—Child C (age 6 years)

This case again illustrates the problem of educational specifications. A well-to-do but childless couple, after perhaps too many years of delay, decided to take a child

into their home and give this child a good college education. Their preference was a girl, aged 6 months.

College educability is an extremely difficult thing to predict. It depends upon personality as well as intelligence factors, and it may hinge on a motivation which has been built up by years of direct and indirect suggestion in the home.

However, some children are much more likely to possess this degree of capacity than others. We were fortunate in discovering a convincingly promising boy, aged 6 years, alert, spontaneous, of superior mentality, of excellent personality, and also of superior inheritance. Here the "chances" of collegiate capacity were unusually favorable.

The adoptive parents met this child and were eager to take him on trial. They relinquished their desire for a younger child in preference for this greater educational certainty.

Defective but Adopted—Child D (age 12 years)

It is possible in certain very exceptional instances that adoption of a mentally deficient child may be consented to. A girl who was examined at the age of 12 years was very attractive in appearance and made an impression of normality but proved to have a mental age of 8 years and a school ability of less than fourth grade. It was necessary to classify her as a high-grade mental defective. The social agency in charge of this case asked the clinic whether or not this girl was sufficiently promising to

justify consent to adoption. The reply to the agency was as follows:

"My impression after a long conversation with the mother is that adoption may be quite legitimate inasmuch as your agency has urged and accomplished considerable delay before approving such adoption and is in position to place all the hazards of such a step before the adoptive parents. You have rendered a service in bringing about the delay, and it may even be possible to prolong this delay until D is 18 years of age. However, we can see no ground on which an issue can be made under all the circumstances. Mrs. ——— is apparently ready to take all risks that would go with the step. Any other type of solution would not satisfy either Mr. or Mrs. ———; and if their impulse for adoption is as sincere as it seems to be and if they will consent to do all in their power to prevent marriage, the wise course may be to allow adoption. You are justified, however, in view of our reply, in making it clear that we have very grave and well-founded doubts whether this child can ever assume and meet the complex responsibility of making a home of her own."

Normal but Incompatible—Child E (age 7 years)

This was a normal, wholesome youngster, found for a very promising foster home. The foster parents were leading people in their community. Although childless they had done well by several boarding children. And yet this home failed surprisingly and somewhat

tragically, for reasons which neither the mental examiner nor the home-placement visitor could have foreseen.

The placement visitor summed up the case as follows:

"For several months E delighted her foster parents. In six months, however, we received a request for immediate removal. The foster father, who dearly loved the little daughter, had tried for several months to cope with a situation which was growing so serious that he finally realized he had to give up the child or allow his home to be broken up. His wife became furiously jealous of his affection for the child and considered that she was coming between them. E has never been able to see why she had to leave this very happy farm home—still talks of it wistfully—and I do not see how we could have anticipated this outcome and prevented her heartbreak."

Exaggerated Affection—Child F (age 14 years)

The foster mother in this case lost two children in early infancy, both of them dying before the age of 1. Last year she passed her menopause. About eight years ago she adopted a boy in whom she is thoroughly wrapped up. Indeed, her fondness is so exaggerated that she has lost her sense of proportion with respect to his behavior. He is an average, well-behaved boy, but she worries about him. This exaggerated fondness is remotely compensatory for her grief over the two lost babies and for her worries over financial conditions. For the sake of the boy as well as the mother, the attitude between them must be

normalized. Here is a mental-hygiene problem in the making, which reveals the importance of a wholesome relation between the foster parent and the child.

Hasty Adoption and Antagonism—Child G (age 4 years)

This case presents an interesting contrast. Here again is a kind foster mother, one who impulsively adopted a child of a niece, but after one week profoundly regretted this adoption, which had been promptly legalized by probate papers. Although the mother had been acquainted with this child by frequently seeing G play with other children in the yard, the child did not respond to the test of home life and proved to be mentally inferior. The mother has now developed a great antagonism toward the child, which weighs heavily upon them both. The situation is as serious as incompatibility between husband and wife, and annulment of adoption presents problems comparable to those of divorce.

This case illustrates again the folly of ill-considered adoption. The mental examination showed that this girl at the age of 4 years had a high-grade mental defect. This defect was concealed to ordinary observation, because G was only a little child; and did she not play around much like the other children? Yes; but she was and is feeble-minded, and this diagnosis should have been made before rather than after the decree of adoption. Moreover, a probationary period of only six months would have had a very tempering effect upon the impulse to adopt.

Does this case also illustrate the great value of annulment provisions in adoption laws? Not very conclusively. Such annulment proceedings should be very sparingly used. Almost complete reliance should be placed on pre-adoption clinical safeguards and upon a scrupulous utilization of the probationary period.

The Minnesota statute provides that the court may annul adoption and commit the child to State guardianship if within five years after adoption the child develops feeble-mindedness, epilepsy, insanity, or venereal infection as a result of unrecognized conditions existing prior to the adoption. The instances in which feeble-mindedness would so develop are very rare.

The purpose of the preplacement investigation, clinical examination, and probationary test is to uncover all conditions which exist prior to adoption. Placement can not be developed to the highest degree if annulment is made as easy as marital divorce.

Precautionary Probation—Child H (age 8 years)

This child was referred to the clinic by the State bureau of child welfare with the question, "Is she overplaced or underplaced?" With a brother born out of wedlock, she did not have an unclouded family background; she had also spent an interval in a neglectful, dirty home. Her present foster parents had taken her into the home on trial. It proved to be a case of mutual love and compatibility on first sight. In 24 hours the parents decided that she must stay. The bureau, however,

was able to prolong the probationary period to 16 months.

The clinical examination showed that the girl had a well-developed average mentality, that she was alert, responsive, amiable, and apparently very favorably constituted from a personality standpoint. Fortunately, too, she is neither underplaced or overplaced. She is an excellent adoptive prospect in her present foster home.

There were no striking features about this case, and yet it proves a very simple point which sometimes is forgotten. Nothing was lost by the period of probation. "Love at first sight" was well founded here; in other adoption instances it may prove very untrustworthy. Incidentally, something was gained by the period of probation. The slight fear that they might not be permitted to adopt had if anything a wholesome, sobering effect upon the attitude of the foster parents towards the whole adoption situation.

Bad Background but Adoptable—Child J (age 20 months)

It is not the function of preplacement clinical examination solely to discover the deterrents and to define the hazards of adoption, but to emphasize positive, promising, constructive possibilities. A great deal is heard about poor family background in child-placement work. Social workers speak in a vague, foreboding way about the bad background of this and that child. What does the background mean? Alcoholism, abuse, shiftlessness,

poverty, neglect, insanity, mental deficiency, illegitimacy, and the like. Often it is gratuitously assumed that in some way or other this background is in the inherent constitution of the child.

This does not always follow. To be sure, long residence in an incompetent home may warp a child and leave a deposit which is part and parcel of his acquired personality. On the other hand, a child may have a feeble-minded mother and still be a relatively safe placement or even adoption prospect. Not all feeblemindedness is hereditary.

Recently J, a girl of 20 months, was brought to the clinic. Her mother is so mentally deficient that she (the mother) is about to be committed to a State institution. Her husband does not know the difference between a one-dollar and a five-dollar bill and is thought by the neighbors to be more defective than his wife. The actual paternity of the child is unknown, because the mother has been promiscuous in her sexual relations. It is not known whether the maternal mental defect is definitely transmissible or of a secondary, acquired character. When the child is estimated on her own merits it is necessary to consider her fully normal in her present developmental status. Her personality traits are not only normal but positively favorable. In spite of her forbidding background, she is entitled to more than an indifferent or temporizing placement. She is entitled to a good placement, and she is a safer adoption prospect than many a child with a better background.

CONCLUSIONS

The foregoing cases cover some of the more important psychological problems which arise out of the complicated task of child adoption. They demonstrate that this task cannot be intrusted altogether to good will or to intuitive impulse, or even to unaided common sense. There are too many opportunities for error and miscarriage. The combined critical judgment of the social investigator, the court, the physician, and the mental examiner should enter into the regulation of adoption.

The greatest universal safeguard is a period of probation, but this can not be wisely used unless supplemented by clinical determinations of health conditions and developmental outlook. Mental examinations are particularly necessary to forestall serious errors of selection by oversanguine foster parents. These examinations are also necessary to reduce the number of replacements or uprootings which still figure too frequently in the lives of dependent children.

Adoption is at once a social expedient and a social asset. Like education, it must be adapted to each individual situation if it is to realize the best results. Purely from the standpoint of social economy, if for no other reason, this asset should be constructively conserved. Optimum placement consists in the avoidance of underplacement, overplacement, and misplacement and results in the greatest mutual good for child and foster parent.

Clinical control of child adoption should be closely

related to all precautionary and investigatory procedures. It should reënforce and direct rather than displace other methods of control.

Systematic psychoclinical examinations not only will reduce the wastes of error and miscarriage but will serve to reveal children of normal and superior endowment beneath the concealment of neglect, of poverty, or of poor repute.

Clinical safeguards can not solve all the problems of child adoption, but they can steadily improve its methods and make them both more scientific and humane. Most of all in the appealing but undefined period of infancy do we need a clearer light for faith.

CHAPTER XIV

THE EARLY RECOGNITION OF DEVELOPMENTAL DEFECT

PROBLEMS OF TIMELY DIAGNOSIS AND OF GUIDANCE CONTROL

PREVENTIVE medicine places a premium upon timely diagnosis. As a general rule, the earlier the recognition of a developmental handicap, the greater the possibilities of remedy or of management. Even incurable handicaps offer no exception to the general principle of early diagnosis, for they too should be discovered in season and coped with in terms of their requirements. A handicapped child must be early understood with respect to his limitations as well as to his positive potentialities. Sometimes the well being of the parent is more seriously involved than that of the child; and the mental hygiene of the parent-child relation is put to its most severe test. For this reason the whole problem of the recognition of developmental handicaps must take into account the psychology of the parent as well as that of the child.

In infancy and early childhood, defects are readily overlooked or minimized. The very immaturity of the child tends to make a handicap seem inconsequential. There is a careless or a wishful faith that the handicap

will be outgrown. Sometimes on the contrary, there is exaggerated concern over a difficulty which is relatively benign. Only a most careful regard for the conceptions and the attitudes of the parents can meet the complex problems which arise out of the discovery of developmental handicap in a young child. The total task of diagnosis involves a guidance of these attitudes into the most constructive channels.

Some of these considerations apply with special force to mental deficiency; but every kind of handicap, extreme or mild, permanent or temporary, makes a demand upon the moral resources of the parent striving to attain a rational attitude toward the situation. Even with normal children, going through a protracted period of convalescence, the parent is obliged to muster a measure of Spartan detachment, so that the child will not acquire undue dependency or undue domination. Children learn life lessons from illness.

A large proportion of the major handicaps of development are acquired in the preschool years (from birth to age six); and it is during this period that the fundamental adjustment both of the child and of the parent to the handicap should be accomplished. In summary the incidence of handicap is approximately as follows. Three fourths of all the cases of deafness occur before the sixth year. One third of all the blind are less than 21 years old; over one half of these cases occur before the fifth year. About one fourth of the whole crippled population are under 15 years of age; over one third of these

cases originated before the fifth year. Fully three fourths of all cases of speech defect apparently reveal themselves before school entrance. The percentage of cases of conduct disorder and of neuropathic instability is indeterminate, but considerable. Finally, practically all cases of mental deficiency are well established either in infancy or by the age of six years.

This chapter will discuss general principles underlying the early diagnosis of mental deficiency. The importance of measures of individual guidance for all types of handicap will be suggested in the following chapter.

The process of growth itself, whether normal or defective, is beyond the eye of immediate perception. The symptoms of growth, however, can be studied with direct objectivity. Psychologically, growth expresses itself in ascending orders of behavior. The trend and the tempo of development in a human being can be deduced from the manner in which capacities for behavior mature. The possibility of diagnosing developmental types of mental defect in early infancy rests on certain lawful relations between age and growth.

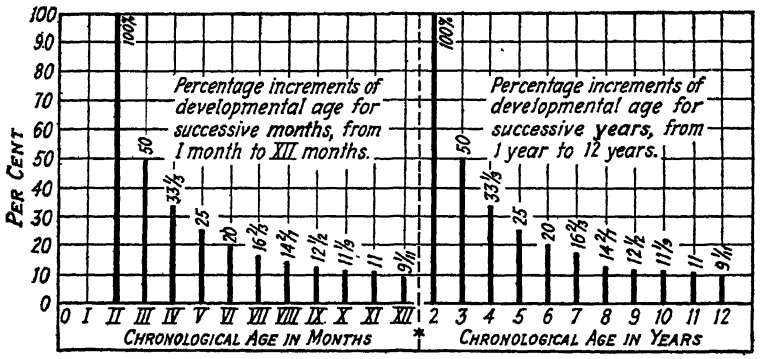
It takes time to grow. Development is profoundly conditioned by duration. Although one cannot say that development is caused by the clock or the almanac, one may insist that development is a function of age, and that a recognition of the age values of behavior and of the behavior values of age constitutes the first essential for developmental diagnosis. The frequent failure to discern

certain kinds and grades of mental defect in early infancy may well arise out of the fact that precise heed has not been paid to the factor of agedness in appraising the young infant.

In early infancy it is necessary to give much respect to small units of duration. The younger the organism the more potent is any given unit of time in the economy of its development. The younger the organism the more swift and intense its growth tends to be. In the period of the germ and embryo, hours and days count; in the period of the fetus, weeks; in infancy, months, and in childhood, years. The intense compression of development in the early sector of the life cycle is so great that age, by virtue of some kind of relativity, assumes an augmented importance which must be reckoned with in diagnostic procedure. Indeed, it may almost be said that in infancy the months are as vast as later years.

The older the child, the longer it takes for him to grow a definite proportional amount. This fact may be represented in a diagram (Graph 1). By expressing developmental maturity in terms of developmental age, it is possible to plot the diminishing increments of development which accompany aging on a basis of relative percentage. Graph 1 shows the equivalence of eleven monthly increments of developmental age prior to the first birthday, and eleven corresponding yearly increments thereafter. By using the convenient concept of the developmental quotient, this chart brings out the genetic relativity of the factor of age.

It is this relativity which has some significance for the diagnosis and the portrayal of mental growth in early infancy. The chart simply brings each interval of agedness into comparison with the total preceding interval. There is a rapid stepping down of increments. In the second month the infant doubles his age; there is a gain or "increment" of 100 per cent. In the third month the increment is 50 per cent (3 months: 2 months). In the fourth month it is 25 per cent (5 months: 4 months). And then in order it is 20, 16.66, 14.28, 12.5, 11.11, 11 and 9.09 per cent, when the first year of the development cycle is complete.



Graph 1.—Showing the equivalence of eleven monthly increments of developmental age, prior to the first birthday, and, for comparison, eleven corresponding yearly increments thereafter.

It is necessary now to shift to larger units of agedness, or linger on a tedious plateau. A shift to year units yields a series of annual increments which arithmetically correspond to the monthly increments. In the second year, the child doubles his age. The series of

percentage increments to the thirteenth year is 100, 50, 33.33, 25, 20, 16.66, 14.28, 12.5, 11.11, 11 and 9.09.

The beginnings and the end of the developmental span are extremely inaccessible, so we have simply brought into diagrammatic comparison or analogy the monthly increments of the first year of the postnatal life with the annual increments thereafter to the teens. One finds that they are alike, and is left with the broad suggestion that any year of development after the first birthday to the teens is comparable in its relative maturational value to a corresponding month in the first year of life.

From a clinical point of view, such a comparative formulation may well be defensible. Clinical experience surely justifies the general statement that the younger the child the more serious is the prognostic significance of every degree of true retardation. Retardation, like a shadow, lengthens with the lapse of time. Backwardness thus becomes more obvious.

In the early phases of the mental growth cycle, the dynamic importance of small units of time is so great that every month witnesses significant increments of behavior. This process of progressive incrementation begins amazingly early, the nervous system being conspicuously in the van during intrauterine growth. As early as the second fetal month, rudimentary reflexes appear in the embryo; in the third month, mouth movements; in the fourth month, deep cervical reflexes involving arm, leg and head; in the fifth month, labyrinthine reflexes of equilibrium; in the sixth month, prerespiratory

reflexes; and in the seventh, eighth and ninth months, the circumnatal reflexes necessary for extrauterine existence —a prudential provision against the contingency of premature birth.

By the close of the first postnatal month the normal infant is already showing selective regard for his mother's face. In another month he follows her moving figure with his eyes. At the third month he can crudely manipulate a rattle. At the fourth month he closes in on a toy dangled above his crib. At 5 months of age he can pick up the toy on manual contact. At 6 months he reaches for it on sight. At 7 months he can scoop up a tiny pellet from the table. At 8 months he looks for a spoon fallen out of sight. At 9 months he combines a cup and spoon in play. At 10 months he plucks a pellet with precise pincer prehension. At 11 months he pokes a rod in a hole. At 12 months he articulates one or two words.

Such behavior events are the symptoms of mental growth. They occur, not hit or miss, but in lawful accordance with the time-conditioned mechanics of development. By taking critical account of this biologic relationship between these small units of age and ordered units of behavior, one finds it possible to appraise the normality of tempo and trend in the infant's early development.

In its diagnostic work, the Yale Psycho-Clinic has used graded schedules of behavior items for making clinical estimates of developmental status. One of these

schedules lists behavior characteristics for ten age levels up to six years; another syllabus of 135 items, approximately a dozen for each month, covers the first year of mental growth. This schedule for the normative study of infant behavior is being thoroughly recast on the basis of lunar month intervals to make its application more precise.[1]

A large number of children, both normal and subnormal, have now been clinically examined with the aid of this monthly increment schedule and the preschool developmental norms. Some of the cases have been followed for a period of years, and it appears that retardation in the first year is not readily outgrown, but tends to project itself proportionately into the subsequent periods of life. This can be demonstrated by a brief review of the mental-growth history of a few illustrative cases.

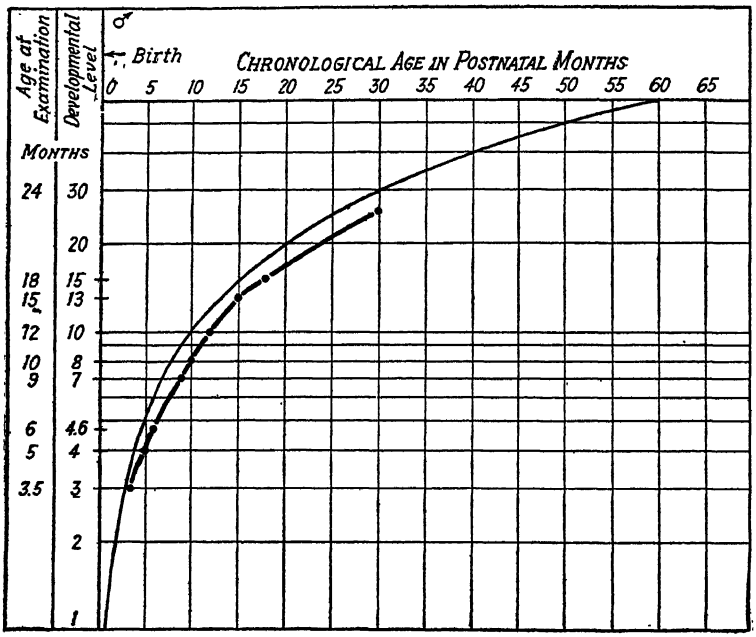
The cases are selected because they are typical of simple, primary forms of developmental retardation. It is clear that sweeping generalizations concerning mental deficiency must be avoided. There are more or less atypical growth complexes which show deceleration, irregularity, deterioration, and compensatory acceleration in the course of mental growth. In doubtful and complicated cases, reliance cannot be placed on a single determination of developmental status. The diagnosis must be built up through repeated periodic examina-

[1] See Chapter VI—Gesell, Arnold: *Infancy and Human Growth.* The Macmillan Co., New York, 1928.

tions. The consistency of the series of observations then shapes the prognosis.

REPORT OF CASES

B. C. (Graph 2).—B. C., a boy, was examined nine times between the ages of 3 months and 30 months. The observations in these examinations are summarized in



Graph 2, B. C.—Showing a consistently low average rate in the mental growth of B. C.

the accompanying growth graph. It will be noted that there was a slight retardation on each of the examinations. The ratings are clinical appraisals expressed as

developmental age levels in solar months. (Sometimes fractional and interpolated values are given to express the shadings of the clinical estimate.[2])

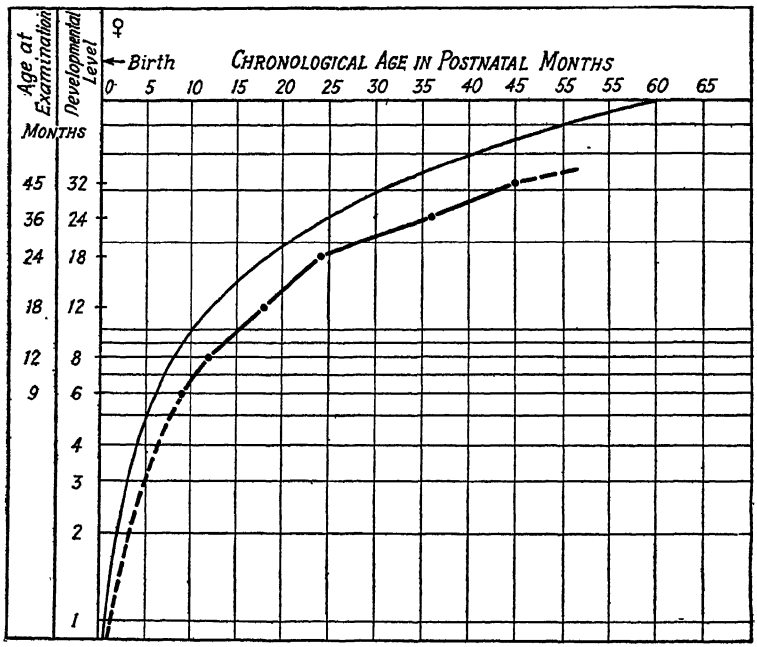
The chief question in this and similar histories of growth concerns not the precise accuracy of the individual ratings, but the general consistency of a series of clinical estimates. In this instance there can be little doubt about the general constancy of the observations. Nine is a fairly large number of examinations, and no less significant than an equal number of examinations spread over a period of several years in later childhood. This boy has maintained a steady pace of development consistently pitched on a low average level. He is not mentally deficient. Although the outlook is normal, it is improbable that he will rise to a full average.

C. D. (Graph 3).—C. D., a girl, was examined six times between the ages of 9 months and 4 years. Her chart presents a consistently subnormal tempo and trend of development throughout this whole period. Clinically she must be classified in the borderline group. On the first examination, at the age of 9 months, her personality made an indelible impression of amenability, good nature, and sociability. Her temperamental make-up from the beginning has been as characteristic of the behavior picture as has her modest mentality. It is

[2] Further details concerning these cases and a discussion of the measurement and prediction of mental growth may be found in Gesell, Arnold: *Infancy and Human Growth,* New York, The Macmillan Company, 1928. Norms and methods of developmental diagnosis are outlined in Gesell, Arnold: *The Mental Growth of the Pre-School Child,* New York, The Macmillan Company, 1925.

possible, but not probable, that this behavior picture will materially change with the advancing years.

V. W. (Graph 4).—V. W., a boy, was examined nine times between the ages of 6 months and 7 years. His grade of subnormality proved to be definitely at the level of mental deficiency. The retardation remained consistently low, as shown by Graph 4, with the exception



Graph 3 (C. D.)—Showing a consistently subnormal development in the mental growth of C. D. from early infancy to the age of 4 years.

of one clinical estimate made at the age of 12 months. He was then in wretched physical condition, and an unduly liberal allowance was made for this physical

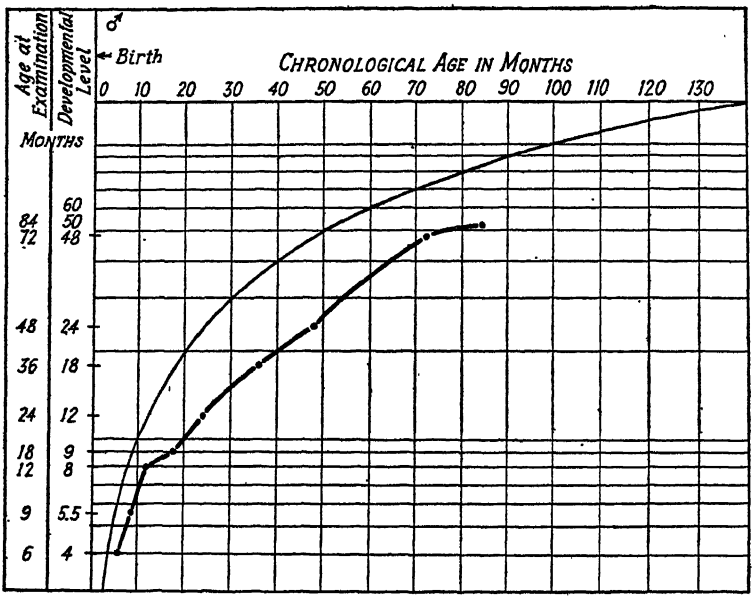
handicap. Since that time he has acquired a sturdy physique; but there has been no compensating improvement of mental status. That status is one of well-defined defect combined with favorable personality and relatively good practical judgment. The mental defect was both inherent and manifest in the behavior picture when he was only a half year old.

From this growth graph it is evident enough that the absolutely small degrees of constitutional retardation in early infancy have considerable relative weight. The inner dynamics of the growth complex are such that, as this typical instance reveals, a retardation of 2 months at the age of ½ year may lengthen into a retardation of approximately 2 years at the age of 6.

S. T. (Graph 5).—A boy, S. T., was examined five times between his first and fourth birthdays. The developmental ratings as a series show progressive, relative acceleration. On the first examination, his motor development was if anything below the 6 months level. He needed firm support in the sitting position. He was also retarded in the fields of prehension and adaptive behavior. The symptomatology did not definitely indicate mental deficiency, but the developmental outlook was unfavorable. The next examination at 17 months showed remarkable gains. He had progressed from a habitual dorsal position to walking with help. He was beginning to articulate "dada" and "mama." He was beginning to build a tower of three blocks. The prognosis became more favorable, though at the age of four

years his intelligence must still be rated as low average.

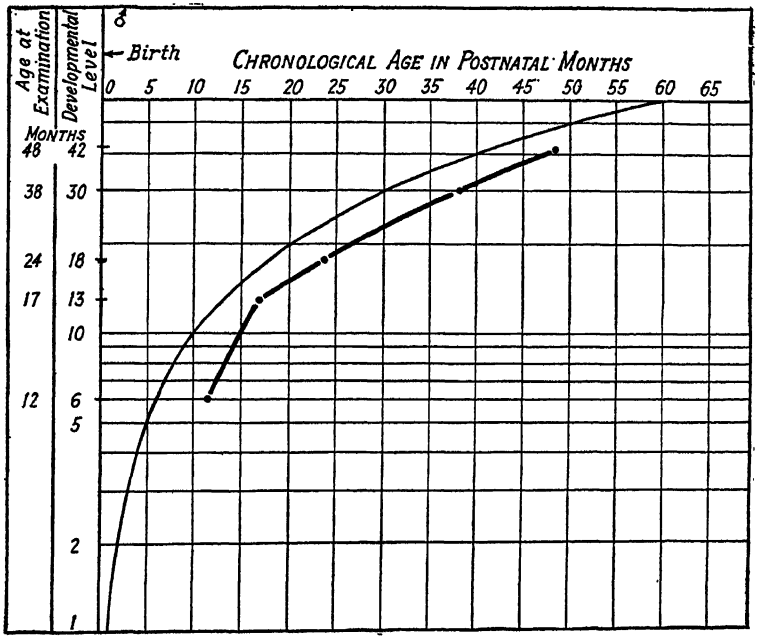
A case of atypical development like this, although somewhat rare is significant. It indicates that great caution must be exercised in applying normative criteria. It also suggests that in all doubtful cases the diagnosis



Graph 4 (V. W.)—Showing retardation in the mental growth of V. W. from 6 months to 7 years of age, with early physical subnormality.

should be cumulatively built up by a periodic series of examinations and not rest on a single estimate. The whole child must be considered in several fields of behavior—motor, language, adaptive, and personal-social. No one field should be overweighted in the clinical judgment.

The first three cases are, perhaps, sufficient to illustrate our main thesis, namely, the importance of small amounts of duration in the diagnosis of development in early infancy. The developmental history of the healthy premature infant confirms this thesis in an interesting



Graph 5 (S. T.)—Showing acceleration in mental growth.

manner. In him there is a spurious degree of retardation which simulates mental defect; but the false retardation is resolved when his maturity and his age are reckoned from the true base line of conception. Then his mental growth curve takes on a normal conformation. Chronologic age is so consequential that careful clinical

discount must be made for the interval of prematurity. For example, a healthy child born two months prematurely may at the age of 6 months present a four-months picture of behavior. If he were a full term infant, this might indicate serious retardation, even mental deficiency. But since he is a healthy premature child, he is genetically only 4 months old on an ordinary post-natal basis. The developmental outlook is actually normal.

There are atypical forms of defect and deviation which cannot be considered here, which place certain limitations on early diagnosis and prediction. Nor can we consider the interesting problem of the differential diagnosis between defect and debility in infancy. In a general way, however, it may be said that even severe physical handicaps, like excessive underweight and malnutrition, do not drastically alter the behavior capacities of the child. In spite of its impressionability, the growth of the nervous system is relatively immune to temporary adversity. There is a stable substrate of neurologic maturation which tends to assert itself in behavior that is characteristic of the child's basic maturity. This stability of the nervous system in the labile complex of growth will increase the possibilities of developmental diagnosis as accurate technic becomes available.

When carefully safeguarded with clinical interpretation, determinations of developmental status, even in early infancy, may be presumed to have a high degree of prognostic import. In a recent series of 429 examina-

tions of ninety infants, 80 per cent of whom were examined at the Yale Psycho-Clinic, before they were 18 months of age, twenty-three of the entire group were rated after consecutive examinations as having a developmental quotient of less than 70; most of these children were clinically classified as mentally defective. In all but one instance out of the twenty-three, the final developmental classification was predicted by the observations in the first examination.

Unfortunately, the child does not tend to overcome the subnormality which definitely declares itself in his infancy. This is not surprising, because in the full perspective of both prenatal and postnatal embryology it must be granted that even the infant is far advanced toward his ultimate organization. If he does not show normal characteristics of growth, all is not well with him; for, whether young or old, the human being's capacity for growth is one of the most innate and significant features of his biological equipment.

In its most characteristic form, mental deficiency does not come through abrupt abbreviation or sharp curtailment of normal growth. It seems rather to express a fundamental, pervasive reduction of growth potency. When the fate of the person rests on such a reduction, a diagnosis of mental defect may be safely made in his early infancy.

Not for scientific reasons alone is it desirable to perfect methods for the early measurement and prediction of developmental status. Even when the defects are

insuperable, medicine will place a premium on timely diagnosis as an aid to better control.

To what extent and in what manner parents are to share in the recognition of an early diagnosis of mental defect, is an important problem that must be left to the wisdom and tact of the physician. The circumstances of each situation vary so enormously that no general policy can be laid down. It serves no good purpose, however, to nourish a faith or an optimism which is doomed to disappointment. If such a policy is pursued too long and too blindly, new difficulties are created. The reality of the mental defect is difficulty enough. By wise and gradual methods, if not by immediate approach, the facts may be imparted. The mental welfare of the family as well as of the child is at stake. In last analysis the acceptance of reality is necessary even in the presence of incomprehensible thwarting of life.

CHAPTER XV

INDIVIDUAL GUIDANCE FOR PARENT AND CHILD

A Guidance Nursery and Individualized Guidance Service

In their final application the procedures of mental hygiene must be individualized. There may be diagnosis by a group but not of a group; there may be conference with a group. In the end, however, guidance measures must reach an individual child and an individual parent. All problems of behavior and training, whether in normal, atypical, or handicapped preschool children, require some degree of individual study and of individual adjustment. To a considerable extent these problems involve the home situation and the parent-child relationship. It is desirable, therefore, to reckon with the problems in an individualized manner, which will most directly and effectively reach the parental and home factors.

This does not of course mean that group methods have no place in the organization of parental and preparental education. There is a genetic philosophy of education, there are general principles of child training and fundamental attitudes toward children which can be

developed through group instruction and even through the cinema. There are basic methods of group approach which are being explored on a promising scale by new movements in the field of parental and home economics education. But on every hand there is evidence that in the field of mental hygiene as in other areas of public health, the guidance service must be addressed to the individual problems as they arise, as in the activities of the visiting nurse, the visiting teacher, the social worker, the dispensary, and the clinic. Ideally such guidance service should take form in close relation to the existing medical safeguards, private and public, for the protection of the child's development.

Even in connection with maternity hygiene there is need for individual guidance which will direct attitudes and outlook with reference to the tasks of child training and of family relationships. This is indeed an important period for setting significant psychological factors into operation. After the child is born, the problems of his proper rearing arise in a very natural way in relation to the health supervision by the infant welfare center or by the family physician. If this health supervision continues beyond infancy through the preschool years, there will be periodic occasions for parent guidance. Our present provisions for the health protection of the preschool child, though incompletely realized, are well conceived in terms of a personal, individualized type of guidance service. At any stage during the formative preschool years, parents should have the oppor-

tunity to refer serious problems of child care for advisory consultation. In principle these problems should not be too much divorced from a general health supervision.

Nor should they be postponed and temporized with until the child reaches school age. There has recently been an increasing recognition of the importance of a thorough health examination at school entrance. Various methods and slogans have been used to stimulate parents to get their children ready for school. The "Summer Round-Ups" launched by the Congress of Parents and Teachers have reached thousands of children in a beneficial manner. Likewise the "Enrollment Clinics" of Trenton; the special preëntrance examinations at St. Louis, Milwaukee, and elsewhere; the kindergarten examination of the State Department of Health and of Instruction of Pennsylvania; and the Beginners' Day of the State Department of Instruction and of Health of North Carolina. These are significant and useful efforts. But the hygienic regulation of school entrance should be part of a more organic and continuous scheme of health supervision which logically starts not with elementary school matriculation, but with the birth of the child. From the developmental standpoint, the problems of school entrance begin with infancy. This is particularly true with regard to children who are in any way exceptional or handicapped.

In the foregoing chapter attention was called to the great prevalence of developmental defects and

handicaps among preschool children. If a child is born deaf or acquires deafness in the first years of life, it becomes extremely important to train him at once in terms of his sensory defect. Likewise with blindness and motor handicaps, speech defects, and behavior difficulties. The feeble-minded of preschool age remain peculiarly neglected from the standpoint of socialized assistance. The most direct and effective way of increasing that assistance is to render at least a guidance service in behalf of the parents.

Social provisions for handicapped preschool children are to-day in the same rudimentary stage of development as was the education of exceptional children a generation ago. It is not probable that the manifold problems of protecting the mental welfare of these handicapped young children will be solved chiefly through child caring institutions. The problems are so intricately and intimately intertwined with family life, that the much needed assistance must come through individualized guidance service. If the problems seem discouragingly difficult, we have but to recall the status of infant nutrition a generation ago. The greater protection of physical growth has been achieved through highly individualized methods of supervision and guidance. Comparable results can be obtained in the protection of mental growth by comparable, though modified, procedures.

Any careful psychological survey of a large group of kindergarten and prekindergarten children will reveal an appreciable number who are in need of special educa-

tional provisions. A simple classification would list these children as follows:

1. Those of subnormal intelligence—the retarded, borderline, and mentally deficient.
2. Those with sensory or motor defect—the blind and near-blind, the deaf and near-deaf, the crippled.
3. Those with defect of speech or of conversational attitude.
4. Those with faulty personal habits of eating, sleeping, rest, play, elimination.
5. Those with faulty emotional or personality trends —the overtimid, the overaggressive, the overfearful, overdependent, jealous, and negative.

Children from all of these five classes will be found at infant welfare stations, at preschool consultation centers, in nurseries and kindergartens. Children of the third, fourth, and fifth subdivisions, in particular, are enrolled in the kindergarten. How can we remove somewhat the neglect and the misunderstanding from which too many suffer?

There can be no simple solution. It is idle to suggest that special children should be grouped into special schoolrooms. We must heed the teaching of the fable of the sticks and break this vast problem into individual units. We must discover the children early, select those who most need special guidance, and develop flexible facilities which will focus on the parent as well as the child. The various techniques of child guidance which

are being developed in connection with habit clinics and nursery schools furnish concrete suggestion of how individual preschool guidance measures may be achieved.

The methods of the Guidance Nursery of the Yale Psycho-Clinic may here be briefly described.[1] The Guidance Nursery was organized as an adjunct to the service division of the clinic. Its general purpose is to provide facilities for the observation and guidance of young children (from one to six years old) and to develop flexible, individualized procedures for the guidance of parents.

Incidentally, the nursery provides observational and training opportunities for advanced students in the field of child development. The arrangements are made flexible to permit intensive work with significant cases and to aid in the defining of new methods of approach in child and parent guidance.

It has been our purpose to demonstrate that certain types of work in the field of preschool and parental education can be economically undertaken in connection with kindergarten and other agencies, without the more elaborate provisions of a congregate nursery school.

A clinical examiner makes the initial psychological

[1] The techniques for infant-guidance work must be developed in close association with the medical supervision of the mother and child. Problems in this field have been studied at the Yale Psycho-Clinic in connection with periodic developmental examinations of infants, and an infant-parent-guidance service has been inaugurated at a small suburban infant-welfare center. The work is in charge of a pediatrist in coöperation with a child psychologist. This unifying arrangement incorporates the developmental supervision with the regular health supervision of the infant-welfare center.

examination of all children referred to the clinic and to the nursery for observation or training. A guidance worker gives her full time to actual guidance work with individual children and groups of children, to records of their behavior, to home visitation, and to conference with the parents. Other members of the clinical staff, social workers, and student assistants, may participate in the working out of the individual guidance programs.

The practical arrangements of the guidance nursery are simple. They consist of a bright, homelike nursery with a fireplace, a small cloakroom with lavatory, and an outdoor play shelter communicating with a spacious play lawn. (The outdoor equipment consists of sandbox, slides, seesaw, ladders, carts, and wheeled toys.) Built into one corner of the nursery is a small indoor play pond. Built into an adjoining corner is an inconspicuous but roomy observation alcove for the use of parents and other observers. This alcove consists essentially of a carpeted and draped room with chairs, and a screen partition which has the appearance of a solid wall when viewed from the exterior or nursery side. This screen is constructed of ordinary commercial wire netting (sixteen mesh) treated with several thin coats of white enamel paint on the exterior surface. Viewed from the nursery side this screen has the appearance of a solid surface. From the interior, however, it is sufficiently transparent to give the observer a clear view of the nursery. A large observation room is, of course, not indispensable. The panels of the door of a darkened

cloakroom (see the diagram, page 93) can be provided with an observation screen which may be advantageously used by one or two observers.

The nursery is equipped with a varied assortment of toys, with large building blocks and other constructive materials. This equipment gives the child ample chance to display his traits and abilities both in independent and in social situations. There are abundant opportunities for him to work at problems requiring intelligence, motor coördination, conversation, and emotional control. The mother of the child may take a station in the observation alcove, which gives her a wholesomely detached point of view for following his behavior through the screen shield. It should be emphasized that the equipment is simple and that the essentials may be readily duplicated. Even the play pond is of very simple construction. It consists of nothing more than a shallow basin (four feet by six) made of galvanized sheet metal, painted marine green, and supplied with a central fountain. Planks serve as bridges, and the floating toys, the sticks to poke with, and the strings to pull provide endless opportunity for constructive play.

There is no fixed program of activities; the procedure with the individual child is planned and carried out according to his needs, on the basis of the problems shown. There is necessarily, however, a certain minimum of routine through which each case passes. The initial visit includes first of all a developmental examination, which is followed by a period of observation in

the guidance nursery. The introductory report, containing information as to family background and developmental history, as well as the parent's statement of the problem, is examined, and its details are amplified through an interview with the parent. There may be a visit to the home to confirm the impression as to the probable home background or to observe manifestations of problem behavior which occur only in the home.

On the basis of the information gathered through these various steps, a conference between the psychologist and the guidance worker determines: (*a*) whether or not it will be desirable to follow the case by means of further visits; (*b*) if so, how many visits are likely to be necessary; (*c*) how frequently they should take place; (*d*) whether the child should continue to come alone, or at least to begin with, or whether he should be seen with one or two other children; and (*e*) the methods provisionally decided upon for meeting the problem.

Whether he comes alone or with others, the child is introduced into the nursery situation in an entirely informal manner. Each child is required to do what he can toward removing his outer clothing and hanging it up; but these preliminaries over, his activities are permitted, so far as possible, to follow the line of his own interests. Interference and suggestions on the part of the guidance worker or any other adult present are kept at a minimum. This aim is materially aided by having the mother seated in the observation alcove already described, where the screen, while permitting her

to observe all the activities, keeps the child ignorant of her presence and effectually restrains her tendencies to step into such situations as may cause her concern.

There are times, of course, when it becomes desirable for the guidance worker to take a hand, for the purpose of preventing accidents, adjudicating disputes, encouraging a hesitant child, etc.; or she may respond to the child's attempts to draw her into the play. Under certain conditions the situation which is likely to call forth problem behavior is actually presented in the clinic. Thus, a child who is referred on account of certain problems in relation to the feeding situation may be served luncheon in the nursery alone or with other children; one who is overdependent upon the presence of the mother may have to undergo separation; or a child who is given to disobedience or temper tantrums may be faced with situations which bring out those responses. The mother in this way is given a concrete demonstration of how such problems are to be met or avoided. Then, in a conference with the mother which takes place immediately after the observation is concluded, the situation is gone over, the outstanding points emphasized, the differences between her own and our guidance methods brought out, and her confidence as to the possibility that she herself will be able to overcome the problems strengthened.

This guidance procedure varies with each individual case. Typically, the different steps may be recapitulated as follows:

a. A request for an appointment and a consultation concerning a concrete report of the behavior problem. Usually the mother brings the child to the clinic on the first visit.

b. A psychological examination of the child in the service clinic.

c. Observation of the spontaneous behavior of the child in the guidance nursery.

d. A conference of the guidance worker and of the clinical examiner, which leads to the planning of a special guidance program.

e. Return visits of the child to the guidance nursery, once, twice, or oftener, a week.

f. Occasional return visits by the mother to give her an opportunity to observe the child and to learn, through the demonstration of the guidance nursery, the methods to be used.

g. Conference with the mother to show how similar methods may be used at home.

h. Follow-up visits of child and parent to continue guidance and supervision.

The parents, like the children, are, for the most part, seen individually. The guidance takes the form of consultation and conference rather than formal group instruction. The problems of child management are discussed in terms of the specific child and concretely in relation to his reported behavior and his actual behavior at the clinic. Thus, the parent guidance and the child

guidance are carried on conjointly in a natural context and in direct relation to a concrete situation.

As a vital part of our program of procedure in any guidance problem it is necessary that we have the entire coöperation of the mother and it is only upon this understanding that we undertake to follow up a case. It has been our experience that the mother is usually willing to accept this stipulation and to carry out our suggestions as far as she is able; it seldom becomes necessary to drop a case because of any failure to coöperate.

An interview with the mother on the first visit furnishes a background for laying out procedures and enables us to make whatever general or specific suggestions we are in a position to give after the initial observation. Repeated conferences on later visits, in the clinic or, occasionally, in the home, serve to check the results of carrying out earlier manifestations of the problem. A most valuable aid in the work of parent guidance is the observation alcove which permits concrete demonstrations of methods with the mother effectually removed from the situation so far as the child is concerned. This arrangement fosters in her an attitude of detachment important in her own management of the problems.

It has been our experience that many mothers, by the time they bring their children to us, have completely lost confidence in their ability to handle the problems presented by their children. It is important that the confidence thus lost be restored. Much may be accom-

plished towards this end by showing them that it is quite possible to effect control without resorting to drastic measures.

In summary, the Guidance Nursery is a device for the observation and guidance of young children and also for the guidance of parents who are perplexed with the behavior problems which their children present. A Guidance Nursery lacks many of the characteristics of a school, and yet it is designed to be an educational tool. It is operated like a service unit on an appointment basis. The procedure is constantly varied to meet the special needs of the individual child or parent. The guidance work is on a dispensatory basis.

The Guidance Nursery, therefore, has no fixed enrolment like the ordinary nursery school. Its activities and attendance vary from week to week and even from day to day. It is in charge of a guidance worker who has a background of experience with children of kindergarten and preschool age. Sometimes she works intensively with one child; more frequently she works with small groups of three, four, five, and six children, usually from eighteen months to five years of age. The number of times which any given child comes to the nursery is indeterminate and depends upon the amount of adjustment or education which is needed. At first a child may attend two or three times a week; later, only once a month. Much depends upon the nature of the problem and upon the needs of the parent.

Child guidance and parent guidance are carried on

conjointly in natural relations with each other. One of the aims of the Guidance Nursery is to demonstrate methods of child care which can be carried out in an ordinary home and, to a large extent, even in an ordinary schoolroom. These methods are simple in principle and require no unusual equipment.

The Guidance Nursery has demonstrated that it is possible to conduct certain forms of work in preschool and parental education on a dispensatory, or service-unit basis. The organization and procedures are relatively simple and economical; for they do not entail full-time attendance. These procedures have the same individualized adaptability which characterizes a child health center, a hospital, or a modern dispensary. It has been shown that for many diverse types of child development problems, occasional contacts with a guidance unit are effective.

The individualized guidance service here described is administratively and economically adaptable to a wide range of situations. Its flexibility makes it especially suitable for children of preschool age, and permits it to be assimilated into public health activities. But it could also be advantageously developed for exceptional or handicapped children of school age; particularly in rural districts and smaller communities. With the aid of mobile supervision much could be done to remove present neglect.

It may even be questioned whether the special class and the special school are the sole means of meeting the

needs of pupils who can not profit by ordinary instruction. Individual guidance service may be developed in close relation to special class provisions. If educational administration were less zealous as to homogeneous groupings, and more intent upon the social education which would come from a mixture of abilities, the subnormal and handicapped might often be kept in contact with their more fortunate fellows. Such arrangements would have a socializing effect upon the normal pupils who would inevitably be drawn into the spirit and into the actual execution of individual guidance service. Far from creating a stigma, such helpfulness under the auspices of a guidance service would have humanizing and educative results.

It is important that methods of individual guidance should be developed within the public school system as well as in connection with infant welfare and child health centers. The kindergarten and, through its preparental work, the secondary school, are important areas for the extension of individual guidance procedures. Youth may be educated by sharing in concrete work with young children of kindergarten and nursery.

The tasks of parent training and parent guidance are so complicated that they can be solved only through a process of progressive experiment and demonstration. The kindergarten doubtless has the good will and the potential capacity to enter on these tasks, but it is unable to find the way because of lack of opportunity for developing the requisite procedures.

We must, therefore, turn to the leaders of education, to superintendents, and principals, and to free-lance individuals who will set into operation experimental enterprises flexible enough to meet the whole range of early childhood, in relation to parent. The nursery school is making an important contribution in this direction. Progressive kindergartens will undertake imaginative experimentation in the same field.

If we go on the assumption that the kindergarten is a place for five-year-olds and that they shall attend on a full time basis daily, like any other school children, we prejudice the solution of the problem. If, however, as suggested in Chapter VII, we regard the kindergarten as the vestibule of the public school system, as an untrammeled port of entry, and give it freedom to develop varying multiple contacts with different age levels and with parents, it may be possible to overcome the institutional delimitations toward which the kindergarten pattern is now tending.

Why should not the kindergarten make weekly or even daily contacts with parents? Why should not these contacts bring into the picture, in an anticipatory way, even the four-year-old child, the three-year-old child, the two-year-old child? With such a conception of its task, the kindergarten would be in a position to give intensive individual attention to parents and children who most need it, and would also be able to maintain a more fundamental contact with the home.

Such a reorganization of procedure would serve to

humanize early education and would help to bring childhood, youth, and adults into more natural relations with each other. In the interests of American education, something radical should be done to overcome its present tendency to segregational stratification. We have gone almost to the limit in congregating our childhood into homogeneous ability groupings. We have built partitions between six-year-old child, seven-year-old child, eight-year-old child, the grammar-school child, the adolescent. With all our graded classification we have nearly broken down completely the association and interaction of young children and youths which are characteristic of natural family life. Even the kindergarten in its educational procedure has tended to set the young child apart from his home. It is a grave question whether these tendencies toward segregation should continue. It is a grave question whether we should add to our public school structure, after the sectional bookcase manner, simply another tier of arrangements for four-year-olds and three-year-olds and two-year-olds. Is it not possible in our scheme of education to bring the age levels of early childhood, later childhood, youth, and maturity into more natural and genial relations?

The problem of preparental education for adolescents and the coördinate problem of guidance for young mothers and fathers will prove to be major undertakings of public education in the next century. Such considerations give importance to the concept of individualized child guidance. This concept in applica-

tion raises concrete and searching issues as to tasks and policies. The issues will suggest to the school administrator the need of a new flexibility in the organization of the American kindergarten; and to the public health leaders, the wider significance of all infant welfare work.

CHAPTER XVI

THE ORGANIZATION OF DEVELOPMENTAL SUPERVISION AND GUIDANCE

A SUMMARY VIEW OF HYGIENIC MEASURES AND AGENCIES

THE present chapter brings into summary review some of the possibilities and procedures in mental hygiene which have been discussed in the previous pages. It is not our purpose to outline an ideal scheme of comprehensive developmental supervision; but rather to suggest the lines along which such a scheme might be projected. The present tendency in social and scientific organization is so clearly in the direction of coördination that it is desirable to consider the setting of child hygiene measures in their remote as well as immediate context. When regarded in perspective it is remarkable how many and how diverse are the lines that converge toward and diverge from the focal field of infancy.

Preventive mental hygiene must begin early to accomplish maximum results. It is becoming increasingly apparent that in the protection of mental welfare, as well as of physical welfare, society must concentrate its basic effort upon infancy and early childhood.

The whole preschool period, from birth to second dentition (at six years), is comparatively a very critical epoch in the development of the individual. Death, disease, and accident take their heaviest toll during these early years. Three fourths of the deaf, three fourths of the speech-defective, virtually all of the mentally deficient, one third of the crippled, and a large proportion of the blind come by their defects in the preschool years. Even accidents like scalding, burns, and traffic casualties are special hazards for the young child. The automobile each week takes its tragic toll. Who are its preferred victims? Children. And who among the children are preferred? The very young. One half of all the juvenile-traffic deaths are of children under nine years of age.

In the aggregate these figures have much significance for the relatively normal as well as for the handicapped child. They mean that the hazards and the opportunities of development alike are great during this swift-growing period of the life cycle. Some part, at least, of the foundation of mental health must be laid in the preschool period of growth.

But mental growth continues during the whole period of immaturity. Indeed in fortunately minded individuals it may continue far into adult years and even to the brink of old age. The foundational importance of the preschool period rests upon the priority of this period. No one can deny the plasticity and the potencies of later childhood, of youth, and of adulthood. A

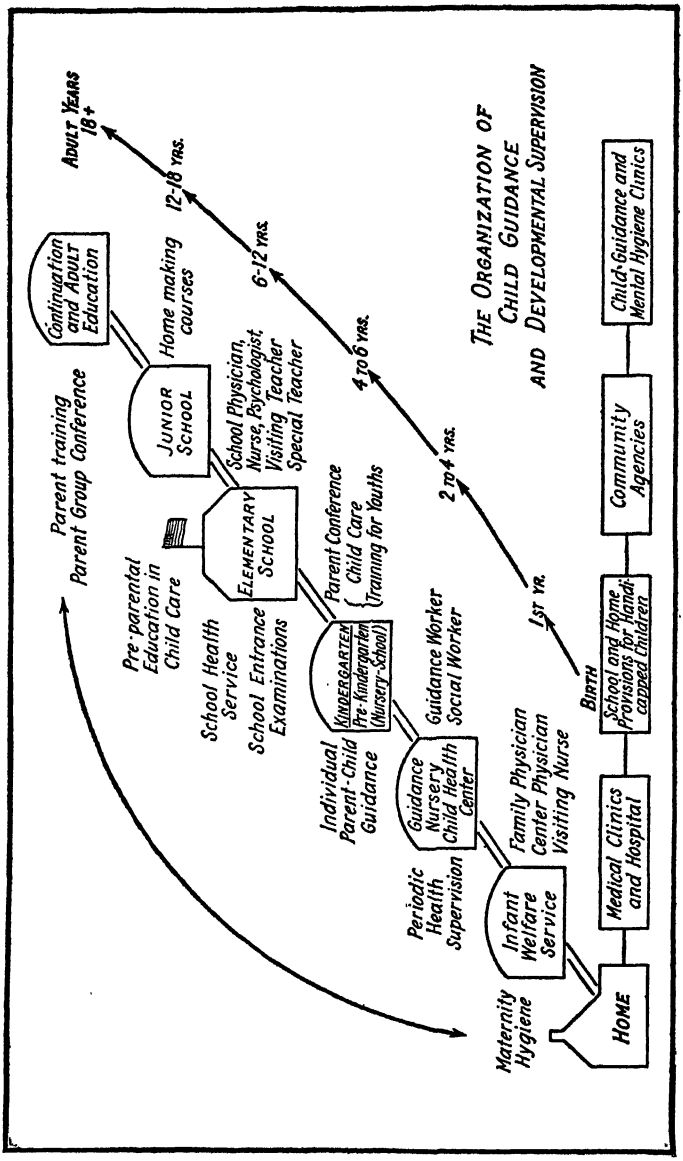
complete view of the whole domain of child guidance and of developmental hygiene will recognize the continuity of all the ages of man, and will emphasize the interrelations of the entire sequence of life periods.

Growth is a unifying concept which expresses the internal unity of the entire life span. All growth is automatically self-conditioning. Past growth modifies present growth and both project themselves into the future.

The broad problem of the organization of child guidance and of developmental supervision may, therefore, be envisaged in terms of the sequence of life periods that make up the cycle of mental growth. In the following brief and very sketchy summary, no attempt will be made to define the administrative details of organization. The administrative scheme will vary for different communities and it can never attain completion. It should so vary because the soundest child-guidance policies must take shape in terms of the resources peculiar to each community.

The accompanying chart (p. 256) outlines diagrammatically the life periods in a comprehensive organization of child guidance and developmental supervision. The chart is intended to show schematically the relations of such service to existing resources in the field of child hygiene and education.

1. Infancy (birth to two years).—For this period society is laying bed rock. The foundation is not yet solid, but it is being laid. Private medical practice,


THE ORGANIZATION OF
CHILD GUIDANCE
AND DEVELOPMENTAL SUPERVISION
ADULT YEARS
18+
12-18 YRS.
6-12 YRS.
4 to 6 YRS.
2 to 4 YRS.
1ST YR.
BIRTH
Continuation and ADULT Education
Parent training
Parent Group Conference
Home making courses
JUNIOR SCHOOL
School Physician, Nurse, Psychologist, Visiting Teacher Special Teacher
Pre-parental Education in Child Care
ELEMENTARY SCHOOL
School Health Service
School Entrance Examinations
Parent Conference
Child Care
Training for Youths
KINDERGARTEN
Pre-Kindergarten (Nursery-School)
Individual Parent-Child Guidance
Guidance Worker
Social Worker
Guidance Nursery Child Health Center
Periodic Health Supervision
Family Physician
Center Physician
Visiting Nurse
Infant Welfare Service
Maternity Hygiene
HOME
Medical Clinics and Hospital
School and Home Provisions for Handicapped Children
Community Agencies
Child-Guidance and Mental Hygiene Clinics

public-health measures, and governmental legislation alike are increasingly directed toward preserving the lives of the newborn child and his mother.

The first infant-welfare consultation center was established in Paris a generation ago. It has flourished like the mustard seed and has been adopted the world over. The attitude and the technique of pediatrist and nurse in the supervision of the development of the infant constitute in many ways the most significant advance that has been made in modern preventive medicine.

The protection of infant life leads to the augmentation of life. The new concern for the safety of birth and babyhood does not stop with measures directed against disease and death. The supervision of the infant's nutrition inevitably broadens into a solicitude for his total economy. The infant's well-being hangs not alone on vitamins and calories, but on his mode of living, on his habits, on the behavior of his parents. Accordingly, the administration of prenatal hygiene is bound to bring into its scope the psychology of the parent-child relationship. The problem of nutrition is so fundamental that by implication and often by actual exigencies it includes the psychological and the functional aspects of development. Thus the weighing and measuring of the infant become the germ of a broader type of developmental supervision. The family physician and the practicing pediatrician are compelled to reckon with numerous problems that lie in the field of mental hygiene and child guidance.

2. *The prekindergarten period* (*two to four years*). —Until recently this transitional period received scant social attention. Now it is fully recognized in theory and increasingly in practice that the medical supervision of the infant by the welfare station and by the family physician must not be allowed to lapse. If the infant is examined weekly and monthly before his first birthday, surely there should be a series of periodic health examinations annually and semi-annually in the years from one to six. But the toddler and later runabout is a young personality who is claiming educational oversight. He is a habit-forming individual subject to the laws of mental hygiene. The child-health center, if it is conducted on a true consultation basis, must constantly raise issues that relate to mental well-being. These early child-guidance problems cannot be escaped nor should they be transplanted to other areas of the social organization. Here is their natural setting.

At this early age child guidance is parent guidance. The nursery school has been invented as a device for furnishing new educational opportunity to normal children and to their parents. Whether the nursery school should develop into a supplementary prekindergarten as a tax-supported annex of our public school system is a question of great complexity that will not be quickly solved. Meanwhile the nursery school is rendering valuable service in defining the interdependent problems of preschool and parental education.

It is possible to organize and to conduct nursery-

school work on a guidance basis. A guidance nursery functions like a dispensary unit, reaches a larger clientele, and focuses directly upon the guidance of the individual parent in relation to the individual child. It combines the technique of dispensary, consultation center, and school. The flexible individualized methods of the guidance nursery under clinical auspices are readily adapted to problem and handicapped children, as well as to normal children.

3. *The kindergarten period (four to six years).*—The American kindergarten is in danger of crystallizing into just another schoolroom, when to meet the new demands it must develop a versatile, multiple technique which will bring it into more effective contact with a wider range of childhood. Instead of becoming fixed as a schoolroom, the kindergarten may evolve into an educational service instrument, a kind of dispensary that will be staffed to do a certain amount of routine, but that will be organized and geared to render special educational guidance to parents and also to children of prekindergarten age.

The position of the kindergarten in the educational scheme is unique and strategic. The kindergarten is the recruiting station of the public school system. As such, there is every reason to hope that it will establish increasing contact with children of prekindergarten age and with their parents. By a judicious penetration into the region of the lower age levels, an articulation with infant-welfare activities can be evolved.

4. *The elementary-school period* (*six to twelve years*).—No artificial distinctions should be made between child guidance and education. But education in the traditional sense is still in danger of being identified with curriculum rather than with the life career of individual children. Academic education is directed toward intellect rather than personality. The concepts of child guidance and of mental hygiene shift the emphasis to personality and stress the importance of the parent-teacher relationship as being dynamically like the parent-child relationship. The diffusion of the concepts of mental hygiene and of child guidance among the large army of elementary school teachers will have incalculable benefits in the promotion of normal psychological development. Normal schools are potential centers for such diffusion.

5. *Adolescence* (*twelve to eighteen years*).—At adolescence the cycle of life begins to turn on itself. The home-making courses of the junior high schools are beginning to take cognizance of this fact. The infant was a prospective kindergarten pupil. He has now become a youth and is ready for anticipatory contacts with the problems of child training. This youth, whether boy or girl, is ready to assimilate in later adolescence much concerning the psychology of child development. Broadly conceived, there is nothing more fundamentally important for the advancement of the objectives of child guidance and mental hygiene than a wide dissemination of provisions for preparental education.

6. *Adult years.*—It is significant that the great national movement in behalf of the preschool child has been paralleled by another significant social movement—namely, that of adult education. The preschool movement and the parental-education movement are coördinate because fundamentally they are inseparable. The whole movement of parent education happily makes the assumption that adults can be educated. In much of our social planning it is easy to focus too exclusively upon the child as if he alone were plastic. The child, after all, is somewhat of an abstraction. He can exist only in relation to adults, and because of the fundamental character of this relationship, the whole technique of child guidance must swing its emphasis to the adult and to the adolescent.

* * *

The sketchiness of this survey has enabled us to envisage the successive life periods in close juxtaposition. It becomes apparent that the broader problems of the organization of child guidance can be solved only on a wide community basis. The medical, social, and educational aspects of the task cannot be separated, nor should special age periods be partitioned from one another. A comprehensive scheme of developmental supervision pictures itself ideally as a working unit, with the promotion of optimum growth as the inclusive aim.

PART THREE

SCIENCE AND THE PROTECTION OF CHILD GROWTH

CHAPTER XVII

CHILD DEVELOPMENT RESEARCH

Its Scientific and Social Significance

Pope's dictum that "the proper study of mankind is man" has in America been revised to read "the proper study of mankind is the child." Never before in the history of education has a people so deliberately and on such a large scale undertaken to investigate the nature and the potentialities of the child. With the partial exception of Russia, America leads in volume and in organization of child research. But the basic network of this research is, of course, international and is the product of modern science which fundamentally is heedless of national boundaries and of national impulse.

In America, however, the study of the child has distinctive features which have been powerfully influenced by social forces. The material conquests of industry and of invention have made new social issues. There is a vague consciousness that the arrangements of society are yielding under the pressure of economic and industrial changes so that even the old-time concepts of family and of school must alter in some measure with the newer form of civilization. It is highly significant that the great social movement of adult education in America

finds itself closely linked with the whole problem of preschool education and with the development of child research. Even in the child study movement at the close of the nineteenth century it was so. It is this intermixture of popular and scientific expressions which will make the late Victorian child study movement, with all its shortcomings, significant to the historian.

The National Research Council in 1923 gave its official recognition to the scientific status of child research by the organization of a committee on child development to foster and coördinate such research. More recently, under similar auspices there was held a conference to outline the field of study represented by problems of family organization and of family life. Increasingly, the problems of child research are now approached from the standpoint of social organization and of the family institution. These problems are so interwoven that they can not be solved by the sciences of child psychology and of educational psychology as traditionally conceived. New concepts of individual and of social development are bringing about reorientations in the historic field of child psychology.

If the term, Child Psychology, were broadly construed to comprehend all knowledge and doctrine pertaining to the mental life of children, the history of child psychology would parallel that of human culture. Even before man could formally write out his reflections on child nature he entertained notions and attitudes which constituted a primitive form of child psychology. This

primitive psychologizing was a mixture of fact, inference, ignorance, philosophy, mores, and sentiment. Modern child psychology has taken shape only within recent decades. It has by no means escaped all of the imperfections of primitive psychologizing; but by the aid of scientific method, errors are being steadily reduced; and the manifold problems of child development are approached in a new spirit of rationalism.

The present widespread investigation of the child mind is itself a significant social symptom. It represents an increasing disposition to attribute even the phenomena of human behavior to natural rather than miraculous causes. This rationalistic temper is dissolving the rigidities of dogmatic theology and dogmatic ethics which so powerfully influenced the psychological outlook upon children from the days of St. Augustine to those of Jonathan Edwards—and of Charles Dickens. Prescientific interpretations of the mind of the child imputed to him a will steeped in hereditary guilt, separate from his general psychology. A genetic appreciation of the mind as an organic complex, subject to laws of growth, was slowly acquired.

The newer interpretations of the child emphasize the unity of personality and are based upon biological concepts of growth and of organism. The child is regarded as part of the order of nature as well as of society, obedient in his behavior to laws ascertainable by methods of orderly observation, measurement, and experimentation. Though child psychology is still in a stage of early

infancy, it has already opened up large areas of predictability and control in the domain of human behavior.

In its early modern development, child psychology was closely identified with the history of elementary education, which in turn was profoundly affected by the industrial revolution. Comenius (1592–1670) in his *School of Infancy* and *Orbis Pictus* and Locke (1632–1704) in his *Thoughts on Education* foreshadowed the psychological approach upon problems of pedagogy which were elaborately treated by Rousseau, Pestalozzi, Froebel, and Herbart. Although none of these educational reformers was a technical psychologist, their writings did much to humanize the care and discipline of children and to psychologize the educational process. They greatly advanced the genetic or developmental point of view, a remarkable achievement for a pre-Darwinian and almost a prebiological age. Froebel drew upon horticulture and crystallography for some of his insights; Pestalozzi kept a diary of his new born son; Herbart developed a semimechanistic associational psychology. The present day interest in the psychology of the preschool child was anticipated in three suggestively diverse directions—by Tiedemann (1787), a physician; by Robert Owen, a social reformer; and by Madame Necker de Saussure (1828), feminist.

Child psychology often mirrors social settings and social strivings. The recent nursery school movement illustrates this fact. Likewise the child study movement of the nineteenth century. It is so again in contemporary

Russia where it is asserted that the complex science of "pedology", first brought forth in America by G. Stanley Hall, finds a larger realization under favorable social conditions. The reciprocal relations between child psychology and ideologies constitutes a persisting critical problem for the social sciences.

In its early period Child Psychology was largely descriptive and utilized simple, informal methods of observation. With the growth of technique in related fields of study, controlled and quantitative methods have come increasingly into use. The scientific literature has expanded with striking rapidity. Three trends are distinguishable in the development of recent investigations: (*a*) the experimental, (*b*) psychometric, and (*c*) psycho-biological.

(*a*) Experimental psychology, founded in 1879 by Wundt, has been chiefly concerned with the adult mind and bound up with introspection. But with the new realization that the understanding of this adult mind depends upon a genetic analysis of its early development, the methods of the experimental laboratory are being carried to the lowest age levels. The techniques of physiology and of animal psychology are being adapted to the study of learning and conditioning in infancy. Behaviorism, which is closely allied to laboratory physiology, and *Gestalt* psychology both have an experimental interest in child behavior.

(*b*) Psychometry, or the measurement of individual differences, is associated with the names of Galton, Cat-

tell, Thorndike, Binet. The Binet measuring scale of intelligence has had a luxuriant growth on receptive American soil, and has, with a host of related mental and educational tests, created volumes of data for the study of the individual child and the group. In spite of its errors and shortcomings, the mental-test movement has created a new technology of great social import. Psychometry has been most successful in the gradation and classification of differences of intellectual capacity, but has not coped effectively with the important factors of emotion, motivation, and personality.

Individual or clinical child psychology may be regarded as a special development in the field of mental measurement. It represents an effort to use the techniques of psychology to appraise the abilities and developmental potentialities of both normal and deviating individuals. It is becoming a supplement to clinical psychiatry in the fields of child guidance and of mental hygiene.

(*c*) Psycho-biology is a hyphenated compound which reflects the current trend toward a monistic or organismic outlook upon scientific problems. In the sweep of this trend child psychology tends to lose a sharply defined identity; and becomes merged with the investigations of the fundamental sciences. The traditional concept of a self-subsisting mind accommodates itself to concepts which integrate psyche and soma—concepts like function, stimulus and response, behavior, emergence, *gestalt,* gradient, growth, etc. Hence it is that the scope

and content of child psychology are being profoundly affected by a wide ramification into the subsoil of psychobiology. The term *child development* has become a rival, if not a substitute, for that of child psychology. It is a protean term, but useful and surely symptomatic of the current trend of science.

The problems of child development involve such varied scientific fields as bio-chemistry, developmental anatomy, nutrition, anthropometry, anthropology, psychiatry, pediatrics, and genetic, experimental, comparative, and clinical psychology. Child development is fundamentally a branch of human biology, concerned with the laws and the nature of early human growth. In spite of their diversity and intricacy the problems of child development are organized and even simplified by the integrating concept of growth—a concept which will increasingly supplant static theories of education and of hygiene. Growth can be guided because it is governed by biological laws.

This psycho-biological concept of growth has important consequences for social welfare. It extends the scope of child psychology beyond traditional and academic limits and greatly augments the possibilities of safeguarding individual development from birth. In its special applied phases child psychology has become a distinctive feature of modern social organization—deliberately used as a scientific tool in the rational solution of age-old problems of infant training, childhood education, the prevention and control of delinquency,

the foster placement of dependents, the guidance of parents, the regulation of child adoption, the diagnosis of the defective and deviate, the management of the problem child, the care of the handicapped and maladjusted, the discovery and direction of superior abilities.

Great numbers of the child population are now psychologically examined each year in public schools, in child-guidance clinics, in child-caring institutions and at centers of child research. Although the available "psycho-technology" is imperfect and incomplete, it is employed on an impressive and significant scale.

With the progress of psycho-biological science this technology will steadily improve and will penetrate the lower age levels of infancy. The infant is a fragment of nature whose growth, whether mental or physical, is obedient to natural laws. These laws are now scarcely known, but science will steadily increase our knowledge of them. The scientific attack upon the problems of growth has become so systematic and far-flung that we may regard it as one of the major adjustments by which society is working toward a better control of human welfare.

The human infant, by reason of his unique position in the social organization, is a focus surcharged with social issues and implications. Although he is a biological fragment of nature, he is also meshed in a web of human relationships. The interaction between his organic make-up and these social influences is the crucial problem of the sciences of child development. It is for

this reason that the system of child psychology which any culture achieves is an index of that culture. And conversely, the scientific study of the process of mental growth in infant and child becomes a touchstone for the deeper comprehension of the process of social organization itself.

CHAPTER XVIII

HEREDITY AND MENTAL GROWTH

THE RÔLE OF MATURATION IN THE PATTERNING OF BEHAVIOR

THE very term *Child Guidance* implies that there are two factors to be reckoned with in human development —those of nature and those of nurture. The scientific control of problems of child growth must take into account both sets of factors. The power of environmental factors has sometimes been proclaimed almost to the exclusion of the innate. Babies come into the world virtually alike, the argument runs; environment works upon a virgin protoplasm and builds up individuality through ceaseless and pervasive conditioning. The influence of conditioning on the human infant has been so forcibly asserted in behavioristic writing, that it may be desirable to examine the rôle of organic maturation in the early patterning of behavior.

This chapter will deal particularly with those deep-seated growth factors largely determined by heredity, which give stability to the course of mental development. These factors need emphasis quite as much as those more impressionable characteristics which have led to ex-

aggerated views of the power of environment. Mental hygiene becomes a fatuous optimism if the intrinsic, inborn determiners of behavior do not receive due recognition.

But no sundering distinction should be made between heredity and environment. The two interact conjointly. We need a correlating concept which will bring both sets of factors into intimate, reciprocal interplay. Growth is such a concept. It resolves the antithesis of endowment and environment in favor of a unifying dynamic outlook.

The lawfulness of psychological growth expresses itself in the tendency toward patterning which human behavior always displays. The behavior of the infant, by nature is obedient to pattern. Never does the picture of normal behavior become as diffuse and formless as a drifting cloud. Even the random movements of the month-old child are not utterly fortuitous. The closer one studies them the more configuration they assume. There is indeed no such thing as utter randomness in infant behavior. Accordingly the "random activity" of the two months infant is distinct from that of the month-old. It is distinctive because it has its own pattern.

Likewise with the fœtus. Its behavior is in no sense amorphous, but, as the studies of Minkowski have shown, manifests itself in fairly well-defined reflexes—long, short, diagonal, and trot reflexes; postural reflexes; rhythmical and inhibitive phenomena. These patterns of behavior follow an orderly genetic sequence in their

emergence. Genetic sequence is itself an expression of elaborate pattern. And the relative stability of both prenatal and postnatal ontogenesis under normal and even unusual conditions must be regarded as a significant indication of the fundamental rôle of maturational factors in the determination of behavior.

Again take the fœtus. The uterus is the normal environment of the fœtus till the end of a gestation period of 40 weeks. But birth with survival, may exceptionally occur as early as 24 weeks and as late as 48 weeks, an enormous range of variation in natal age amounting to 6 lunar months. Variation with a range of 3 lunar months is common and yet this considerable variation does not impose a corresponding deviation on the complex of behavior. Our normative studies of both premature and postmature infants have shown repeatedly that the growth course of behavior tends to be obedient to the regular underlying pattern of genetic sequence, irrespective of the irregularity of the birth event. Refined studies will doubtless reveal that such irregularity does subtly modify many details of behavior; but as a point of departure for the discussion of maturation, nothing is more comprehensive in implication than the general stability of the trend and the tempo of development, in spite of precocious or postponed displacement of birth. The patterns of genetic sequence insure a basically similar growth career for full-term, preterm, and post-term infants. It is as though Nature had provided a regulatory factor of safety against the stress

of extreme variations of environment. In the mechanisms of maturation this regulation operates.

The term *growth* may be construed to embrace the total complex of ontogenetic development. Maturation refers to those phases and products of growth which are wholly or chiefly due to innate and endogenous factors. It is our purpose to assemble, in a summary manner, diverse evidences of behavior maturation, based upon our clinical, experimental, and normative observations.

These evidences are drawn from several sources as follows:

(1) The development of prehension.

(2) Developmental correspondence in identical twins.

(3) The limitations of training.

(4) The restricted influence of physical handicap.

(5) Developmental progression in emotional behavior.

1. *The Development of Prehension.*—The development of prehension throughout the first year of life displays significant progressive changes in behavior pattern. These changes raise searching doubts concerning the influence of experience and training upon these patterns. We have studied these changes with particular reference to a pellet 8 millimeters in diameter. The characteristic eye-hand reactions of an infant confronted with this tiny pellet may be recapitulated in the following, which is a genetic order:

(*a*) No visual regard for the pellet.
(*b*) Transient regard for the pellet.
(*c*) More prolonged and definite fixation upon the pellet with slight postural changes (16 weeks).
(*d*) Visual fixation with crude bilateral or unilateral hand approach (20 weeks).
(*e*) Unilateral pronated hand approach with scratching in vicinity of the pellet (24 weeks).
(*f*) Pronated hand approach with occasional raking flexion resulting in palmar prehension (28 weeks).
(*g*) Pronated hand approach with extension of index finger and partial suppression of other digits resulting in poking or prehension by index finger with partial thumb opposition.
(*h*) Rotation of wrist in hand approach, with pincerlike prehension of pellet by index finger and thumb (40 weeks).
(*i*) Perfection and further delimitation of pincerlike response.

All these changes mature with subtle but significant accompanying changes in head posture, body posture, hand-and-arm attitude and associated visual behavior. It seems quite erroneous to say that the child learns to prehend the pellet in the traditional sense of the learning process. Crudely, but nevertheless effectively, he prehends the pellet by gross palmar approach as early as the age of 28 weeks. The refinement of his eye-hand

behavior comes not by the alleged utilization of snatches of successful random activity, but by the progressive acquisition and consolidation of a hierarchy of behavior patterns which are the result of developmental decrements and increments rather than the stamping in or chaining of satisfying, successful reflexes. The defective child shows retardation in the acquisition of these patterns even though he may, in a durational sense, have a larger fund of prehensory experience. It is not improbable that many of these developmental changes in the pattern of prehension would be realized even if the prehensory hand were altogether swaddled and deprived of activity. When the prehensory mechanism is damaged by restricted birth injury to the brain, resulting in extensive athetosis, the propensity to prehend or reach may still assert itself at the proper genetic level. Even though the propensity is aborted by the motor disability, its presence is highly suggestive of the potency of maturational determination.

2. *Developmental Correspondence in Twins.*—In a recent study we have gathered detailed data on the development of prehension in a pair of identical infant twins. These twins were identical not only with regard to their skin patterns but also to a remarkable degree, with regard to their behavior patterns. Nowhere was this more objectively shown than in their prehensory reactions to cubes and pellets under controlled observational conditions. At 28 weeks both of these twins, being retarded, and also premature, were visually unheed-

ful of the pellet, though they definitely regarded a cube. At 38 weeks they addressed themselves in an identical manner to the pellet. The hands were in full pronation, the fingers, spread apart in a fanlike manner, were fully extended. The thumb was fully extended almost at right angles. The photographic record of their attack upon the pellet, in the motion pictures, shows an almost uncanny degree of identity in the details of postural attitude, hand attitude, and mechanism of grasp. Space does not permit the further specification of these details.

At 40 weeks each twin made a crude raking attack upon the pellet, with occasional awkward but completed prehension in which the palm and all of the digits participated. The form of the prehension pattern was again remarkably similar in the two children. At 42 weeks they were again examined in the same situation. Although there had been no special instruction or conditioning in the interval, these 2 weeks imposed a palpable and strikingly similar change upon the prehension picture. Simultaneous flexion of the digits was very neatly displaced by a preferential flexion of the index finger. The raking approach was replaced by a poking with the tip of the index finger. Such an interesting inflection of the prehensory pattern surely could not have been induced so precisely and so simultaneously in both of these children without the presence of controlling factors of organic maturation. Of similar significance is the fact that comparable changes in prehension pat-

tern appeared coincidentally throughout the course of their development.

The correspondences in behavior patterns in these twins were literally uncountable. However, the records of 13 developmental examinations were analyzed, and 612 separate comparative ratings of behavior items were made from these records in order to determine items of correspondence and disparity. There were 99 items of minor disparity and 513 items of identical or nearly identical correspondence. The parity of behavior patterns was overwhelming.

Many convincing examples of behavior correspondence might be cited. We content ourselves with a few much abbreviated illustrations. Here is one which seems to us to have experimental control, even though it deals with nothing more than the reaction of two infants when placed in exactly the same manner upon a flat platform to observe their postural control in the sitting position. Both children showed precisely the same kind and degree of difficulty in equilibrium at the age of 28 weeks. In both there was a tendency to sway to the right; in both it was impossible, even by spreading the legs, to make the body lean forward sufficiently to establish a passive balance. In the case of each child there was an antagonistic tension which made the body rebound backward in an automatic manner resembling a sharp springlike action of a knife blade snapping into position. We have never seen precisely this kind of reaction in an infant at this age. It is inconceivable that

the response arose out of some identical conditioning factor in the environment. It is reasonable to suppose that this distinctive behavior pattern reflected a maturity level and a synchronous neural organization shared by both children because of their common genetic origin.[1]

Within a week this reaction disappeared. Four days later the twins were placed upon a large blotter on the platform of a clinical crib and maintained the sitting position by leaning forward. Simultaneously they attacked the blotter with the hand in full pronation, and simultaneously, with vocalization, they continued to scratch the blotter, leaving visible marks. Here again was a dramatic bit of correspondence, all the more impressive because displayed simultaneously. The complexity and nature of these two behavior patterns again suggest the determining rôle of maturation. If it is argued that extrinsic factors determine the form and the time occurrence of these simultaneous patterns it is necessary to demonstrate in detail the cunning arrangements of environment and of conditioning stimuli which could design so precisely, and in duplicate, the configuration of behavior. How can the environment, even of twins, accomplish such architectonic miracles?

[1] Galton wrote a paper on The History of Twins, as a Criterion of the Relative Powers of Nature and Nurture. He devoted a chapter to Twins in his *Inquiries into Human Faculty* in which he makes this characteristic remark: "In cases where the maladies of the twins are continually alike, the clocks of their two lives move regularly on at the same rate, governed by their internal mechanism. When the hands approach the hour, there are sudden clicks, followed by a whirring of wheels; the moment that they touch it, the strokes fall. Necessitarians may derive new arguments from the life histories of twins."

A brief example of behavior correspondence may be cited from the 44 weeks examination record. The twins were confronted with a test-performance box with its three holes. The common method of approach of the two children, their preferred regard for the edge of the performance box, the fleeting regard for the holes, the exploitation of the vertical surface of the performance box by a scratching, simultaneous flexion of the digits, the failure to place a round rod into any of the holes, the brushing of the surface of the performance box with the rod, the transfer of the rod from one hand to the other, and finally an almost simultaneous peculiar clicking vocalization in both twins—altogether constituted a very complicated behavior pattern, but one which bristled with numerous identities of spatial and dynamic detail. One can give due weight to the significance of this correspondence only by reflecting on the myriad of behavior exploitations of the situation which the twins *might* have adopted. But in spite of this multitude of exploitational possibilities, the twins were apparently under a common inner compulsion to adopt those very similarities of behavior which have been noted.

Still another, and very pretty example of identity was disclosed in the pellet and bottle test at 48 weeks. This test involved a bit of learning as well as perception and prehension. Three trials were made with each child. The examiner dropped a pellet into a small glass bottle and then gave the bottle to the child. Both children watched the dropping of the pellet with the same trans-

fixed attention. Both children, on the first trial and on the second trial too, seized the bottle apparently heedless of the contained pellet. Both children on the third trial pursued the pellet by poking at it against the glass. Here the identity of behavior pattern extended even into the marginal zone of adaptation through learning.

In passing it should be noted that although these observations on twins are comparative, they are objective. They have an objective, quantitative validity. It must be insisted that it would be very difficult to devise a more complicated and in some senses a more delicate instrument of behavior measurement than one twin used in juxtaposition with an identical cotwin as a standard of reference and comparative observation.

3. *Limitations of Training.*—While the positive results of training and conditioning have somewhat obscured the factors of maturation, the limitations of training may be adduced to show the existence of these factors. Such limitations were put to experimental study [2] in the same pair of twins (Twin T and Twin C) whom we have just cited. At the age of 46 weeks, when the thorough-going mental and physical identity of the twins had been well established, it was decided to determine the influence of training confined to one twin, by using an experimental method which we have desig-

[2] This study was made in collaboration with Dr. Helen Thompson, Research Associate in The Yale Psycho-Clinic, and is reported in detail in Gesell, A., and Thompson, H. T.: *Learning and Growth in Identical Infant Twins: an Experimental Study by the Method of Co-twin Control.* Genetic Psychology Monographs. July, 1929, Volume VI. No. 1. P. 124.

nated *the method of cotwin control.* T became the trained twin; C was reserved as a control.

Very briefly, Twin T was systematically trained for 20 minutes daily over a period of 6 weeks, in two fields of behavior, stair climbing and cube behavior, including prehension, manipulation, and constructive play with a dozen one-inch red cubes. An experimental staircase arrangement of 5 treads was used, and for 10 minutes daily Twin T was put through her paces. At 48 weeks she scaled the stairs for the first time with slight assistance. At the conclusion of the 6 weeks training period (age one year) she was a relatively expert climber. At that age her untrained Cotwin C, would not yet scale the staircase, even with assistance. At the age of 53 weeks, however, when C was again confronted with the staircase she climbed to the top without any assistance and without any previous training whatsover. In this sense the form and the efficiency of her pattern of climbing were almost purely a function of the maturation of the appropriate neural counterparts.[3]

[3] There is a curious nonscientific reference of interest in the Apocrypha of the New Testament—*The Book of James or Protevangelium*—as follows:

"And in the ninth month Anna brought forth a girl and she called her name Mary. And the child waxed strong, and when she was six months old, her mother stood her upon the ground to try if she would stand; and she walked seven steps and returned unto her mother's lap. And her mother caught her up, saying, Thou shalt walk no more upon the ground, until I bring thee into the temple of the Lord.

And when the child was three years old, Joachim and Anna took her up to the temple of the Lord. And the priest received her and kissed her and blessed her. Now there were about the temple fifteen steps, because the temple was high set. And Mary was set on the lowest step, and she mounted up without any help, so that all the people wondered. And the priest made her sit upon the third step of the altar. And she danced with her feet and all the house of Israel loved her."

Twin C was then given an experimental course of training in stair climbing, two weeks in length. At the end of this period (age 55 weeks) she approached Twin T in her climbing skill. By means of the motion picture it was possible to make a comparison of the climbing ability of C at 55 weeks (after 2 weeks of training) with that of T at 52 weeks (after 6 weeks of training). This comparison introduced an interesting form of relativity into the investigation and brought out the significant fact that although T had been trained three times longer and seven weeks earlier, this advantage was more than overcome by the three weeks of C's added age. Again the powerful influence of maturation on infant behavior pattern is made clear. Early training altered slightly the form of the pattern, and hastened the acquisition of facility, but left no considerable or decisive locomotor advantage in favor of Twin T.

In the field of cube play the experiment clearly showed that training had no significant effects upon the patterns of prehension, manipulation, and constructive exploitation. Although Twin C had enjoyed no special opportunities in the handling of cubes, her cube behavior was fully equal to that of T after a 6-weeks training period. The similarity in temporal and spatial details of pattern was confirmed in this case by a time-space analysis of the behavior patterns by means of the cinema record. This does not mean, however, that there were no changes in the patterns of cube behavior during the training period from 46 weeks to 52 weeks. On the con-

trary, the records, when analyzed, show consistent and incontrovertible weekly increments. Indeed, a day by day analysis of the diurnal records of cube behavior satisfied us that there was a daily drift toward progressive changes in the cube performance patterns. These changes were developmentally achieved by steady processes of decrement and increment rather than by a saltatory or zigzag course. There may be spurts and plateaus and rhythms in the development of other fields of behavior, but at this stage of the life cycle there was a relatively constant trend toward daily change. This progressive daily changing apparently occurs by a process of continuous emergence which tends to lift the level of development slowly and steadily as though by tide action rather than by rhythmic spurt. We would explain the resistance of the patterns of cube behavior to the influences of training and conditioning by the fact that these patterns are basically under the stress and the regulation of the intrinsic organic factors of maturation. The very fact that there is a growth trend toward daily change of pattern makes the behavior less susceptible to stereotypy and to conditioning.

4. *The Restricted Influence of Physical Handicap.* —This subject opens up the vast field of experimental etiology in which the conditions of disease and environmental abnormality may be analyzed to determine the influence of extrinsic factors upon the complex of growth. In many instances these extrinsic factors seem to be much less powerful than one might suppose. Even

grave degrees of malnutrition, correlated with excessive subnormality of weight, are usually incompetent to inflict any drastic changes upon the forms of fundamental behavior patterns and upon the genetic order of their sequence. While it must be granted that certain food deficiencies, for example in the field of calcium metabolism, may definitely influence the general picture of behavior, the nervous system itself is remarkably resistant to general adversity, even to malnutrition. When certain areas of the nervous system are actually damaged by disease or injury, maturation cannot make amends, but the maturation of the nervous system seems to proceed toward the optimum in the areas unimpaired, even though lacking the stimulus of exercise of the functions controlled by the impaired areas. It is for this reason that certain clinical types of profound motor disability attain none the less considerable approximation to normality in certain patterns of behavior.

In this context we may also mention the high degree of autonomy which the nervous system maintains even in extreme cases of *puberty præcox*. We have investigated one case in which there was a precocious displacement of puberty amounting to a whole decade. This girl became physiologically mature at the age of 3½ years. In spite of this extreme developmental alteration, the course of her behavior development in the fields of intelligence, language and locomotion has been relatively normal and stable.

Here, also, should be mentioned the general develop-

mental course of the healthy infant born after an abnormally short or an abnormally long gestation period. A premature postnatal environment and a protracted uterine environment must be considered as drastic deviations from normal environmental influence. The relative immunity of the behavior patterns from these environmental deviations again bespeaks the firmness of maturational factors.

5. *Developmental Progression in Emotional Behavior.*—The rôle of maturation in the control of emotional behavior has had scant recognition. The primary emotions have been discussed as though they were elementary stable phenomena subject only to the changes of social conditioning. This is the implication in much that has been written concerning the emotion of fear. It seems to us that the problem has been oversimplified. Fear may be an original tendency, but it is subject to the genetic alterations of organic growth as well as to organization by environmental conditioning. Such conditioning may determine the orientation and reference of fears, but the mode of fearing undergoes change as a result of maturation. Fear is neither more nor less of an abstraction than prehension. It is not a simple entity. It waxes and alters with growth. It is shaped by intrinsic maturation as well as by experience, certainly during the period of infancy.

Consider for example the reactions of an infant to confinement in a small enclosed space, approximately 2 x 3 x 4 feet. In a physical sense the situation is entirely

harmless. The space is ample in size, it is ventilated, it is illuminated, it is open at one end. In a personal sense, however, the space may have elements of novelty and unusualness. The infant is not accustomed to lie in such a small space which shuts him off from his accustomed environment. What are his reactions, even when he is gently introduced into this enclosed chamber? At 10 weeks he may accept the situation with complete complaisance; at 20 weeks he may betray a mild intolerance, a dissatisfaction, persistent head turning and social seeking which we may safely characterize as mild apprehension; at 30 weeks his intolerance to the same situation may be so vigorously expressed by crying that we describe the reaction as fear or fright. Here then are three gradations of response: first, no disquietude; second, mild disquietude; third, robust disquietude. Is not this a genetic gradation of fear behavior which is based upon maturational sequence rather than upon an historical sequence of extrinsic conditioning factors? Such factors may account for specific aspects of fear behavior, but not for the organic pattern beneath such behavior. This pattern, we would suggest, is as much the product of organic growth as the various stages in the elaboration and perfection of prehension. Incidentally it may be said that the observation of duplicate twins will tend to substantiate the existence of maturational factors in the development of emotion. Although the tendency towards developmental divergence in identical twins is probably greater in the field of personality make-up than in any

other sphere of behavior, there is, during infancy, an impressive tendency toward identity of emotional behavior. Twins T and C, already referred to, showed a highly significant degree of correspondence in their manifestations of initial timidity, in their responsiveness to social games, in their reactions to the mirror image, in their gestures of avoiding and refusing, in their seeking and begging gestures, in their laughter and crying. The relatively simultaneous and progressive nature of these changes in the field of emotional behavior suggests the influence of organic maturational factors as opposed to purely extrinsic factors in the determination of behavior pattern.

The extreme versions of environmentalist and conditioning theories suffer because they explain too much. They suggest that the individual is fabricated out of the conditioning patterns. They do not give due recognition to the inner checks which set metes and bounds to the area of conditioning and which happily prevent abnormal and grotesque consequences which the theories themselves would make too easily possible. Although it is artificial to press unduly a distinction between intrinsic and extrinsic factors, it must, after all, be granted that growth is a function of the organism rather than of the environment as such. The environment furnishes the foil and milieu for the manifestations of development, but these manifestations come from inner compulsion and are primarily organized by inherent inner mechanics and by an intrinsic physiology of development. The

very plasticity of growth requires that there be limiting and regulatory mechanisms. Growth is a process so intricate and so sensitive that there must be powerful stabilizing factors, intrinsic rather than extrinsic, which preserve the balance of the total pattern and the direction of the growth trend. Maturation is, in a sense, a name for this regulatory mechanism. Just because we do not grant complete dichotomy of internal and external factors, it is necessary to explain what keeps the almost infinite fortuities of physical and social environment from dominating the organism of the developing individual.

The organismal concept requires that the individual shall maintain an optimum or normal integrity. The phenomena of maturation suggest the stabilizing and inexpugnable factors which safeguard the basic patterns of growth. Just as the respiration of the organism depends upon the maintenance of constant hydrogen-ion concentration, so probably on a vastly more intricate scale, the life career of the individual is maintained by the physiological processes of maturation—processes which determine in such large measure the form and the sequence of infant behavior pattern, that the infant as an individual is reasonably secure against extreme conditioning, whether favorable or unfavorable.

Heredity and personality. If the foregoing considerations are sound, then maturation must be granted a basic rôle even in the patterning of personality and of career. In the detailed make-up of personality characteristics

and of life trends, however, the effects of experience, of events, and of milieu become more conspicuous. "Forces" of social origin and "stresses" from the acquired organization of the individual exert an influence on the patterning of further organization. The complexity of human individuality is so great that the scope of these exogenous factors must be conceived in relationship to a substrate of maturation. The relationship is organic. Intrinsic and extrinsic are complementary rather than mutually exclusive.

The very interpenetration of innate and of derived factors removes personality from the sphere of a narrow or rigid predeterminism. The essence of mental growth thus lies in a mixture of determinateness and indeterminateness. Tempo, trend, and temperament are in large measure determined by inherent or hereditary factors; but the wealth of detail in the dynamic pattern which we call personality is indeterminate until it is defined through experience. Growth potency is fundamentally dependent on original equipment; but the personality make-up is configured by the social conditions in which the young mind grows. For all these reasons the psychology of personality remains both a social and a biological problem.[4]

The biologist emphasizes the marvelous interrelation and integration of all the organic world in one great web of life. Through the sensitive, sifting processes of

[4] This argument is developed in the author's *Infancy and Human Growth*, Chapter XVII.

evolution, all forms of life have in some way become interdependent. All species are thus adapted to each other.

This conceptual image of the Web of Life, Thomson [5] considers one of the four great ideas in Darwinism. "To put it in the coldest way, there seems to be a tendency in animate nature towards the correlation of organisms." "Nature is seen more and more vividly as a fabric." "The circle of one creature's life cuts into many other circles." The relationships are not in static completion or stable design. On a majestic scale which comprises the whole organic world, evolution continues slowly to modify both the organisms and the total pattern of mutual adaptations. This complex system of interrelations "forms an external registration of evolutionary gains and a sieve by which variations, sometimes subtle nuances, one might think, are effectually sifted."

The mechanism of evolution and the mechanism of growth, after all, have much in common. The most striking difference relates to time. What evolution achieves in ages, the infant in his growth accomplishes in brief moments. But he grows and adapts in a manner which is measurably comparable to the evolutionary process.

The image of the web of life is, in fact, applicable to the mechanics of personality formation. It is possible to think of each personal complex of mental growth, as

[5] Thomson, J. A.: Concerning Evolution. Yale University Press, 1925. 245 pp.

a brief compression of events staged in a little theater in which the individual achieves a unique but conditioned system of adaptations to the whole human family. Here again is a "correlation of organisms," based on the interactions and the interdependencies of contiguous personalities. Here, too, in the mental development of each new infant we glimpse the strands of nature's vast web of life, a ceaseless process of adaptation to other individuals, an interplay which inevitably registers itself in the delicate tissue of the child's growing personality.

All children are thus, through correlation, adapted to their parents and to each other. Even the maladjustments between parent and child are adaptations in a psycho-biological sense and can only be comprehended if we view them as lawfully conditioned modes of adaptation. Growth is again the key concept. For better or for worse children and their elders must grow up with each other, which means in interrelation one to the other. The roots of the growth of the infant's personality reach into other human beings. These considerations give great emphasis to the environmental or psychodynamic importance of the parent-infant relationship, discussed in a preceding chapter. This relationship is so fundamental that it may be construed in biological as well as cultural terms.

It appears, then, in summary, that there is a profound interdependence between "heredity" and "environment" in the control of development. These terms, from tradi-

tion, are dualistic in connotation, but growth itself is integrative and resolves the antithesis. The ancient antimony of determinism versus freedom likewise seems inapplicable to the facts of growth. All growth is lawful and in that sense determined. The intrinsic determiners of development work in conformance to genetic laws, the extrinsic factors work in similar and coördinated conformance. The spheres of intrinsic and extrinsic influence are not separate but interpenetrate, and scientifically, if not metaphysically, it is impossible to assign a unique and absolute autonomy to any factor which enters into the growth complex. Even the originative and mutational manifestations always emerge in and out of a zone of growth. They may be unpredictable; but they are not pure miracles. From the standpoint of scientific policy they must be brought within the scope of developmental law.

There is after all a difference between predeterminism and determinism. Scientific determinism does not spell foreordination; but aims to bring even "freedom" within the limits of law and therefore also within the limits of comprehension. An absolutely whimsical and fortuitous freedom would be as offensive to understanding as a stereotyped predestination. In organic evolution and in the growth of the individual these divergent extremes are kept in progressive check and balance. Viewed from one aspect, the phenomena of growth are impressive for their conservative stability; viewed from another aspect they are impressive for their productive

fertility. Plasticity is neither a negative nor a passive character. It is a positive "function of growth," a method of transconstruction or assimilation.

The concept of heredity in its classic simplicity is contradicted by the existence of this kind of plasticity. Apparently there is a process of competition and selection in the formative complex of growth. Even native endowment comes not as a discrete bequest, but is built up through the sifting influence of competition among variable components. Some of these survive, others give way. The native endowment is thus built up through the screening stress of growth, and is a product of growth as well as of germinal constitution. Not all potentialities are realized, but only those which pass the mesh of already attained organization. All growth is self-limited. Growth is mainly determined by previous growth. But this is a progressive kind of determinism which in the field of behavior, at least, comes under human control, and is inconsistent with a fatalistic view of infancy.

These considerations are general. They may be given concreteness if we formulate them briefly in terms of growth potency, personality, and the nervous system. Growth potency is broadly and fundamentally determined by inheritance. The basic developmental tempo, trend, and temperament are mainly inherent individual characteristics. Personality in its most pervasive and inclusive sense is mainly a product of the conditions of development. Maturation proceeds from intrinsic po-

tentiality; organization issues from extrinsic and experiential determinants. But utmost realization of growth potency depends upon maximum organization.

The nervous system stands supreme among the federation of organs which together constitute the human individual. Its supremacy consists in the function of maintaining and furthering the integrity of the body and its behavior. By virtue of this function nature has safeguarded it with certain distinctive growth characteristics. Among all the organs of the body the nervous system manifests a high degree of autonomy in paradoxical union with a high degree of impressionability. It is remarkably resistant to adversity. It withstands much deprivation. When other organs of the body starve, it does not starve as much as they do. This relative invulnerability gives it a certain stability in the somatic competition between organ systems. It tends to grow in obedience to inborn determiners, whether saddled with handicap or favored with opportunity. It responds to opportunity and capitalizes it; but its supreme function is the optimum integration of the individual in all circumstances.

All things considered, the inevitableness and surety of maturation is the most impressive characteristic of early development. It is the hereditary ballast which conserves and stabilizes the growth of each individual infant. It is indigenous in its impulsion; but we may well be grateful for this degree of determinism. If it did not exist the infant would be a victim of a flaccid

malleability which is sometimes romantically ascribed to him. His mind, his spirit, his personality would fall a ready prey to disease, to starvation, to malnutrition, and worst of all, to misguided management. As it is, the inborn tendency toward optimum development is so inveterate that he benefits liberally from what is good in our practice, and suffers less than he logically should from our unenlightenment. Only if we give respect to this inner core of inheritance can we respect the important individual differences which distinguish infants as well as men.

CHAPTER XIX

DEVELOPMENTAL PEDIATRICS AND PSYCHIATRY

MEDICAL ASPECTS OF THE STUDY OF INFANT BEHAVIOR

HISTORICALLY, the psychology of infancy has had two sources of origin: one in speculative philosophy, the other in physiology. In the present discussion [1] we emphasize the potential status of developmental psychology as a natural science in close association with the medical sciences.

THE SCIENTIFIC STUDY OF CHILD DEVELOPMENT

At the present time, the study of child development is in an interesting phase of transition, both in America and abroad. Centers of child research have sprung up in the past ten years at points as far flung as Chicago, Iowa, New York, California, Geneva, Vienna and Moscow. The National Research Council in 1923 took the first steps toward the organization of a committee on child development for the promotion, correlation and integration of research relating to the growth of the

[1] Paper presented before The Section of Pediatrics of the New York Academy of Medicine, Dec. 13, 1928.

child. The national research conferences sponsored by this committee have recognized and brought together such varied interests as biochemistry, developmental anatomy, nutrition, anthropometry, clinical psychology, anthropology, psychiatry, genetics, and experimental and comparative psychology.

The study of child development therefore has become a protean kind of postnatal embryology, a focal field for psychobiologic and medical knowledge, converging on the central problem of early human growth or development.[2] This is, of course, a prodigiously inclusive field of inquiry, but it is a legitimate one, because the phenomena of growth are subject to general and unitary laws which can be formulated only by coördinated contribution from several scientific domains. Growth is itself a unifying concept which depolarizes undue distinctions between mind and body, between heredity and environment, between health and disease. The more comprehensive investigation of child growth will inevitably bring developmental psychology and pediatrics into closer relation.

PRINCIPLES UNDERLYING DEVELOPMENTAL DIAGNOSIS

Development, quite as much as disease, falls within the theory and the practice of pediatrics. Development may be studied from the standpoint of morphogenesis and of physical anthropology; it may also be studied

[2] The terms "growth" and "development" are used interchangeably. It is becoming increasingly difficult to maintain a distinction between growth as dimensional augmentation and development as differentiation.

from the standpoint of function, of behavior. The physiology of human development cannot be investigated or understood apart from behavior. In this sense the pediatrist has a vested interest in the whole problem of infant behavior. In this sense, also, we may hope to show that the elusive problem of mental growth can be approached objectively and tangibly through a systematic study of the behavior characteristics of normal and of abnormal infants.

By way of preface a few general principles may be stated. These principles underlie the theory of a developmental diagnosis of infant behavior:

Behavior is at once the most integrated and the most inclusive expression of developmental status. At every stage of the organism it is the historical end product of the life career of that organism. Therefore, behavior becomes a lawful index of developmental maturity.

Human behavior always tends to fall into ordered pattern. Even the "random" behavior of the young infant is obedient to pattern. Although subject to individual variation and inflection, behavior patterns tend toward typical configurations which are characteristic of species and of age. These patterns are directly determined by the neural counterparts of both central and autonomic nervous systems, and indirectly by biochemical control.

These neural counterparts are primarily the products of intrinsic, organic maturation rather than of extrinsic

influences. Being intrinsically determined, the neural counterparts strongly tend to follow the time-ordered sequence of the life cycle. They are governed by age and by the inherent necessities of sheer developmental mechanics.

It takes time to grow. Development is profoundly conditioned by duration. Although it cannot be said that development is caused by the clock or the almanac, one may insist that development is a function of age, and that a recognition of the age values of behavior and of the behavior values of age constitutes the first essential for developmental diagnosis. The frequent failure to discern certain kinds and grades of mental deviation in early infancy may well arise from the fact that precise heed has not been paid to the factor of age in appraising the young infant. Age is so precisely potent in its influence that the age of the infant must be reckoned from the zero of conception. It is because development is so definitely conditioned by age and by lawful genetic sequences within a given life cycle that developmental diagnosis and, in a measure, even developmental prediction become possible.

Behavior patterns yield to quantitative study, to systematic inventory, and to detailed specification. Such specification, whether on an absolute or on a graded serial basis, furnishes the orientational norms which are necessary for the measurement and for the early diagnosis of developmental defects and deviations.

Age norms of behavior may be correlated with physi-

cal indices to determine growth status, growth trends, and "types."

By means of normative schedules it is possible to make an analytic, descriptive record of developmental status, and to estimate the maturity level of a child in the various fields of behavior.

There are no peculiar difficulties in securing behavior responses from the young child. His very naïveté makes him a favorable psychologic subject. The materials used in a developmental examination at the Yale Psycho-Clinic are relatively simple, and include such familiar objects as spoon, cup, crayon, paper, pellet, string, and 1-inch red cubical building blocks. These objects when presented under controlled conditions, in standardized situations, elicit characteristic responses, that is, distinctive behavior patterns which tend true to type and therefore have a measure of diagnostic significance. Take the reactions to the little red blocks, for convenient illustration. The 4 months old infant gazes at a block placed before him, but fails to pick it up; the 6 months old infant seizes the block with executive directness and puts it to the mouth; the 9 months infant bangs it against a cup in combining play; the 1 year old subject unwraps it from a paper covering; the 18 months infant stands on his own feet and builds a tower of blocks; the 2 year old assembles a row of blocks with deftness; the 3 year old builds a bridge of three blocks; the 4 year old, a more difficult gate, and the 5 year old reproduces from memory a complicated stairway model of ten blocks.

This progressive gradation in the child's reactions to the small red blocks shows how the patterns of his performance tend to keep lawful step with the maturity of his nervous system. Closely scrutinized and critically interpreted in relation to age norms, the behavior with the cubes furnishes a substantial quota of objective evidence for estimating developmental status. An incisive summary of what a retarded child can and cannot do with ten building blocks may supply an index to his neuromuscular equipment. Indeed, if a 3-year-old child can pile three blocks one on the other to make a tower, but cannot even with demonstration rearrange these three blocks to make a bridge (one block surmounting two), this item in itself might be seriously suggestive of mental deficiency.

If this application of behavior norms is valid in principle, it follows that a refinement and improvement of such norms can carry one far beyond the detection of mental defect, and lead to the early diagnosis of numerous individual differences indicative of health and development in infancy. If the supervision of development is to become truly preventive, the technics of developmental diagnosis must be pushed into this period of early infancy.

NORMATIVE SPECIFICATIONS OF INFANT BEHAVIOR

Mental growth proceeds so swiftly in the early sector of the life cycle that normative and diagnostic criteria must pay respect to small units of duration. The

younger the organism, the more potent is any given unit of time in the economy of its development. In the normative research at the Yale Psycho-Clinic it has been found necessary to adopt the lunar month as the basic chronologic unit, the solar month being too variable for quantitative and statistical work. Beginning with birth, the first year of life has been blocked into fifteen age levels (in weeks 1, 4, 6, 8, 12, 16, 20, 24, 28, 32, 36, 40, 44, 48, 52). By means of such finer calibration, it should be possible to measure more closely the developmental characteristics of the infant. A carefully selected, small group of normal infants is being intensively studied at each of these age levels.

The lawfulness of developmental mechanics permits a quantitative approach to clinical problems of individual growth. To be sure there is no absolute unit of measurement for this growth; but there are objective norms, and sensible comparative values, which enable one to plot approximately the levels of maturity for specific fields of behavior or for the individual as a whole. It is convenient to express these levels in ages; for every age has its characteristic behavior values, and conversely behavior capacities have a normative age value. The variabilities in the age factor must be determined by statistical biometrics and by clinical research into associated physical factors.

Behavior therefore is not an elusive will-o'-the-wisp. It expresses itself in patterns which can be clinically perceived and quantitatively stated. Development is

so lawfully conditioned that in spite of its intricacy it will yield to the investigatory methods of medical science. The maturational determiners of the growth of the nervous system, although not immutable, are so stably and regularly entrenched, that the developmental status of the individual can always be interpreted in terms of ascertainable norms of maturity.

But the application of norms of behavior is not restricted to the diagnosis of maturity status in a specific sense. Behavior is also a subtle and sensitive index of physiologic status. Accordingly, behavior signs become an integral part of medical symptomatology, and behavior norms become the criteria for discovering and for supervising conditions of health and disease in infancy.

This brings us to a consideration of some of the possibilities of the diagnosis of behavior in relation to child hygiene and clinical pediatrics. These possibilities may be discussed with reference to (1) the organization of developmental supervision; (2) pediatric research of behavior symptomatology; (3) medical education in the behavior aspects of pediatrics.

POSSIBILITIES OF BEHAVIOR DIAGNOSIS IN RELATION TO CHILD HYGIENE AND PEDIATRICS

The Organization of Developmental Supervision.—The supervision of nutrition in infancy is, and will doubtless remain, the central concern of pediatrics, and here the pediatrician maintains a balanced interest in disease

and in normal growth. His attitude and his technic in this field constitute perhaps the most tangible advance which has been made on a large scale in preventive medicine. The problem of nutrition is so fundamental that by implication, and often by actual exigency, it includes the psychologic and functional aspects of the individual growth. The protection of the nutritional health of the child thus becomes the natural stage for a broader and equally continuous type of developmental supervision. The technic of this developmental supervision will be slowly evolved, but it will come to include the mental as well as the bodily economy of the child's total growth. It will include his behavior patterns and his behavior trends, for they are part and parcel of his entire, indivisible growth.

Although at first glance this seems like an expansive and abstract concept of the province of pediatrics, such an extension of scope is almost inevitable if pediatrics continues its present position as a regional specialty converging the resources of general medicine and biology upon infancy. The whole tendency of modern science, because of its increasing diversity and intricacy, is toward organismal concepts which stress and preserve the unity of the individual. Among the biologic sciences, there is an increasing hyphenation of contiguous disciplines which reflects this tendency. Embryology is becoming physiology; the physiology of development is incorporating basic problems of behavior; anatomists are making experimental researches of immediate im-

portance to psychology. The complexity of this whole situation, regarded from the standpoint of clinical science and of preventive medicine, places an increasing premium on investigatory and professional integration. The status of pediatrics as a correlating nucleus of general medicine becomes reinforced. It is impossible to see how pediatrics can avoid a fundamental reckoning with the problems of human behavior.

A large part of the work of the practicing pediatrician is already concerned with relatively normal infants, not suffering from acute illness, but presenting problems of hygiene, of posture, of habit formation, of behavior deviation, and of behavior disorder. Even in the field of nutrition he is not perplexed so much by dietary requirements as by such "psychologic" phenomena as loss of appetite, food intolerance, faulty feeding habits, and the conspiring influences of the child's total behavior day and of the family situation. Indeed, infant hygiene cannot be reduced to purely physical terms. In the final analysis, many of the primary factors of feeding, sleeping, exercise, rest, energy, and metabolism reduce themselves to forms of behavior, subject to laws of habit training and of emotional conditioning. Basically, these problems of infant hygiene find an ultimate reference in the personality of the infant and in the infant-parent relationship.

For every age group and for every individual there are, therefore, ascertainable "norms" of behavior which must enter into an estimate of his mental and physical

health. Any full inquiry into his health status must give systematic heed to these behavior conditions and bring them into the scheme of developmental supervision.

Periodic health examinations will then become developmental inventories, and the child's behavior assets and liabilities will be entered into a continuing biographic record. Each examination is a check on another. The physician becomes an advisor with respect to the child's behavior health even during the first year of infancy, and takes a preventive interest in symptoms of mental welfare. The more complex and exacting problems of mental diagnosis and treatment will naturally be referred to the psychiatrist; but the problems of mental hygiene are too numerous and too ubiquitous to be assigned to any specialty. The child's hygiene, at least, remains indivisible.

It is not assumed that every pediatrician will become an expert in mental medicine. Neither, however, can it be assumed that the vast field of developmental hygiene should be undertaken by an additional and supplementary mental service. Applied forms of educational psychology are penetrating into the preschool levels of childhood, and they have important contributions to make. It is inconceivable, however, that society will permit ambitious programs of infant training and infant conditioning, apart from the safeguards, the technic, and the mores of medicine. Looking well into the future, the responsibility and the participation of pedi-

atrics in a progressive organization of developmental supervision seem established.

Pediatric Research of Behavior Symptomatology.—One assumption is made throughout this discussion; namely, that growth is a valid scientific concept which falls within the scope of preventive medicine, and that development and disease are inextricably related concepts. Maldevelopment is frequently an expression of disease, and, conversely, diseases are constantly reflected in deviations of development. Clinical anthropology and physical diagnosis supply many keys to this profound interrelation, but behavior is probably the master key.

For this reason, the scientific study of infant behavior from the standpoint of symptomatology becomes an important phase of preventive pediatrics. In spite of its ordered stability, the growth complex is to an undetermined degree, alterable. To affect these alterations, the behavior signs of significant deviations must be sought and found early.

Departures from general health and from optimum nutrition, the onset of disease, the course of illness and of convalescence all tend to express themselves by more or less distinctive behavior signs. The skilled clinician is aware of a host of them. He utilizes his knowledge in his judgments of diagnosis, of prognosis and of treatment. Scattered, casual references to such behavior signs abound in case-studies reported in the literature. It can scarcely be said, however, that behavior symptoma-

tology has attained a systematic status in clinical pediatrics. At any rate, there appears to be abundant opportunity for a behavioristic type of clinical investigation.

Behavior symptoms figure in every syndrome. Diseases do not only have pathologic entity in the anatomic and physiologic sense; they have pathologic entity in the sphere of behavior. Behavior signs, which are correlated with the peculiarities of prodromal, active, and resolving phases of disease processes, would yield to exploration. The field is one of importance and great fertility. It would undoubtedly serve the advancement of clinical pediatrics if systematic behavior studies were more frequently undertaken at hosptials where selected cases are under extended observation and treatment. Many of these cases now scientifically wasted provide an almost experimental etiology for the elucidation of laws of child development. Harvey's observation still holds: "Nature is nowhere accustomed more openly to display her secret mysteries than when she shows traces of her workings apart from the beaten path."

The modern children's hospital with facilities for research is in a position to incorporate the investigation of behavior symptomatology into its programs. In the field of treatment and in the methods of child care there are permanent opportunities for the study of procedure from the psychologic standpoint of behavior control. Incidentally, there are many aspects of management of both the hospital ward and the individual patient that

are essentially psychologic and that call for a more discriminating recognition of the behavior equipment and the behavior requirements of children.

From the standpoint of the hospital one may also raise the question whether the behavior characteristics of the infant should not find a more definite place in the case records. By means of simple bedside tests it would be possible to secure a brief inventory of behavior items, which would carry well beyond the scope of the standard neurologic reflexes. When such behavior inventories are adopted as a matter of routine and are given a status in the case histories, they will inevitably prove their value both for research and for clinical medicine.

In summary, behavior is more than a byproduct in the clinical study of problems of infant development. Behavior is not, in any restrictive sense, the subject matter of a separate scientific or medical discipline. Behavior, in the psychobiologic sense of the term, is an organic manifestation of complexes of growth and of disease, and therefore an essential factor in the interpretation of those complexes.

Medical Education in the Behavior Aspects of Pediatrics.—Periodic health examinations and a periodic normative survey of behavior patterns can be brought into association in a supervisory type of developmental pediatrics directed toward the early recognition and more timely control of growth conditions. The demand for this type of pediatrics is becoming clearer, both in the fields of private practice and of public health. Sys-

tematic health supervision is only in its beginning, but in principle a revolutionary increase in medical and social control has already been achieved. How this supervisory service in infant and mental hygiene will actually be organized no one can, of course, predict. The methods of developmental pediatrics will naturally take shape slowly, but probably with the same steady and sound growth which has marked the advances of preventive pediatrics in the supervision of infant nutrition.

Research in child development and research in the behavior aspects of pediatric problems will contribute to the definition of diagnostic and supervisory technic. But almost equally important are forms of medical education, both preprofessional and postgraduate, which will emphasize the psychologic or the psychobiologic aspects of individual development. Toward this end, curriculum and clinical training alike will have to deal more systematically with the characteristics of the normal infant and with the norms of typical, optimum mental development. This will entail fundamental attention to the developmental aspects of child psychology and to the genetic aspects of neuropsychiatry. The multiplication of special courses and lectures in adult psychiatry, mental hygiene, and psychopathology can scarcely meet the situation. Purely supplementary instruction in these fields might even operate to retard the desired correlation of mental and physical hygiene. What is most needed is a developmental approach which will focus on the central concept of growth from the out-

set, and which will bring health and abnormality in both psychical and physical spheres into organic relation. Only in this way can the psychologic outlook be assimilated into the biologic point of view of the medical student, and only in this way likewise can a scientific outlook of mental hygiene become assimilated into the attitude of the physician.

DEVELOPMENTAL ASPECTS OF PSYCHIATRY

The scientific foundations of developmental pediatrics and of preventive psychiatry have much in common. In its historical development, psychiatry has naturally concerned itself first and foremost with the mental diseases of the adult. But as in other fields of medicine, this concern is now extending in an anticipatory way to the earlier life periods. In its quest for causes of disorder, psychiatry has developed dynamic and genetic concepts, which carry the interpretations of maladjustment back to adolescence, childhood, infancy, and even to the prenatal period. The trauma of birth has figured in these interpretations and Freud has suggested that "the little human being is frequently a finished product in his fourth or fifth year and only reveals gradually in later years what has long been ready within him."

Such theories of mental life are heavily charged with developmental implications and they have provided new insights into the process of personality formation. To a large extent, however, the theoretical principles have been used as premises for a retrospective reconstruc-

tion and have not been directly derived from progressive developmental data gathered during infancy or childhood. The past of the patient thus reconstructed has not been observed and recorded in a true genetic sense. Clinical literature is lacking in consecutive accounts of the life career of individuals who have later proved psychopathic or psychotic.

There are case histories in abundance, but almost devoid of data for the first months and years of life. Even in the field of neuropathology fundamental correlations between histological studies of lesions and psychological studies of behavior pattern have scarcely been begun. More frequent behavior inventories of both normal and defective infants will lead to such correlations.

Not until psychological and pediatric studies of the infant and child are widely and routinely made, can we hope to secure the basic scientific data for a genetic psychiatry. Not until the techniques of developmental pediatrics and of developmental psychology become part of the usage of modern medicine, can we hope for any extensive reformulation of infant psychiatry. Indeed the more fundamental problems of preventive pediatrics and psychiatry are similar and relate to questions of body type, growth trends, constitutional characteristics, and developmental hazards. These problems will probably be approached more and more through the utilization of biometric and psychobiological methods, which are bringing the medical sciences into increasing interrelation, with infancy as a focal area.

The conclusions of this general discussion clearly point to the strategic position of pediatrics in the medical and social scheme. It seems certain that the preventive methods of pediatrics contain a germ capable of endless development in the supervision and control of early human growth.

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[Names of persons are printed in italics]