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PSYCHOLOGIC CARE DURING INFANCY AND CHILDHOOD

PSYCHOLOGIC CARE DURING INFANCY AND CHILDHOOD

BY

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D. APPLETON-CENTURY COMPANY

INCORPORATED

NEW YORK LONDON

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PRINTED IN THE UNITED STATES OF AMERICA

PREFACE

This book is primarily designed to interest and instruct the physician in the promotion of optimal psychologic health in the child. The opportunity to do this belongs uniquely to the physician who sees the child early in life, who observes the parental attitudes and the home environment and who has the training and prestige to administer such knowledge. Pediatric care, which fails to take into account the emotional, mental and motor attributes, is necessarily incomplete. In this task nurses and social workers can give valuable assistance and it is our hope that this book will prove useful to these groups.

With personality defects, as with organic disease, the condition once established is difficult, often impossible, to eradicate. But in this field, even to a greater extent than where structural defects are threatened, much can be done by prevention.

The aim of proper psychologic care is to create an environment which will allow the innate potentialities of the child optimal opportunity for development and growth. Its purpose is not to coerce the child into preconceived patterns of thinking, acting and feeling. It is no more the intent of psychologic guidance to make uniform individuals than it is for nutritional care to make children of the same height and weight.

In order to accurately prescribe an optimal psychologic environment it will be necessary to have at hand a great deal of information which is not, at present, available. It should be kept in mind, however, that knowledge regarding nutrition is also incomplete. The discovery of new vitamins is proceeding actively and data on the amounts of various dietary constituents which are necessary for optimal health have only recently begun to accumulate. Despite our deficiencies we have recommended diets for many years and, we believe, with considerable improvement in the health of our patients.

In a field where so much is controversial it is important that the physician remain as nearly as possible within the realm of common sense and experience. Too rigid an attitude is to be avoided and traditional parental attitudes respected until they have been adequately evaluated. If the limits of knowledge are kept clearly in mind the patient can be greatly benefited by proper psychologic advice.

We wish to express our sincere appreciation to Mr. Lawrence K. Frank for his many helpful suggestions in the preparation of this manuscript, and to the Editors of the *American Journal of Diseases of Children* and the *Journal of Pediatrics* for permission to reproduce articles by us which appeared in those journals.

RUTH MORRIS BAKWIN
HARRY BAKWIN

FOREWORD

In the midst of all the revolutionary upheavals and changes of the past few decades, a movement has been under way, growing ever more influential, that future historians will probably recognize as more significant than many of the dramatic events we now regard as of major importance.

In art and literature, in psychiatry, in law and the administration of justice, in psychology and in education and, especially in medicine, there has been a growing concern for the emotions and feelings, a clearer realization that each individual is a personality whose life experience, especially in infancy and early childhood, is of crucial importance for all his subsequent conduct and relations to others and for his health.

Our traditional conception of human nature and conduct and the various procedures for dealing with individuals are being scrutinized anew in the light of this awareness. The courts are modifying their attitude toward criminals and delinquents, prisons are attempting to help and not merely punish their inmates, schools are trying to gain a more sympathetic understanding of what children need and how they feel, psychologists are studying attitudes and feelings and exploring the development of personality, and medicine is increasingly concerned with the patient as an individual personality whose feelings and past experiences must be recognized in both the diagnosis and treatment of illness.

In this movement pediatrics is playing a major role, translating these new insights and conceptions into medical practice and, equally important, interpreting them to parents and nurses and teachers, upon whom rest the task of daily care and rearing. The psychologic care of infancy and childhood, to foster not only good mental health and emotional stability but as essential to good physical health and functional adequacy, is being increasingly accepted as the responsibility of pediatrics. No other professional group has a greater opportunity to further this movement toward wiser, saner and more wholesome nurture and rearing of infants and children in and through the family.

It is not only as therapist for the innumerable "problems" that parents face, but as the helpful, friendly, collaborator with the family that the pediatrician can protect and guide the normal development of children. Just as the pediatrician has increasingly been occupied with well baby supervision, with feeding, immunizations, periodical examinations and other ways of keeping the child well and growing normally, so he is now actively interested in providing the psychologic advice and direction that will protect the child's personality and foster his mental and emotional development.

Such advice is not a matter of general precepts and vague admonitions. It is rather a question of how to handle the specific details of daily child care and meet the variety of minor deviations and difficulties that may arise, for which

concrete, practical suggestions suited to each child can be offered, together with much needed reassurance to parents and nurses. The emphasis therefore is primarily upon the normal and how to help parents in the daily tasks of child care and rearing, with psychologic understanding and insights and renewed confidence in what they can do to and for the child.

If, in 1900, when babies were dying in such large numbers, any one had rashly predicted the present infant mortality rate, he would have been derided as a visionary or prophet of Utopia. Is it too much then to hope that, in another 3 or 4 decades, pediatrics can, in this crucial area of psychologic care, achieve equally far reaching improvements, that will have even more profound influence upon our whole social life? Toward such a goal this volume offers the wise counsel and professional experience of two pediatricians who have long recognized that the psychologic vitamins of love and affection and sympathetic understanding are as important as the nutritional vitamins, in the wholesome development of childhood and youth.

LAWRENCE K. FRANK

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PSYCHOLOGIC CARE DURING INFANCY AND CHILDHOOD

CHAPTER I

BASIC PRINCIPLES

The Meaning of Optional Child Care. The Maturation Sequence. The Fundamental Needs of the Child. Developmental Retardation. Individual Variability. Discipline. Repair of Psychologic Injury.

Medical care has been eminently successful in improving the physical status of the child. Progress has been so rapid and, on the whole, so satisfactory that it has not seemed necessary to define the fundamental principles on which present procedures are based. On the other hand, the introduction of psychologic care into the practice of pediatrics has been retarded mainly by failure to define those very principles which are subconsciously applied daily in the physical care of the child.

Obviously optimal child care means the best adjustment which can be made between the individual child and his environment. To what extent can the child be expected to adapt himself to his environment, and in what way must the environment be adjusted to the child? Recent studies of growth and development have done much to clarify these problems.

THE MATURATION SEQUENCE

In the psychologic as well as the physical sphere development or maturation takes place according to a plan and a sequence which are innate and which are not readily susceptible to accelerating influences. Development is commonly defined as "increase in complexity" and growth as "increase in size." These definitions are unsatisfactory for several reasons. It is questionable whether the fully developed heart is more complex than the fetal heart. Furthermore the concept of complexity is a subjective one and a measure of individual understanding. It has little to do with the phenomena under consideration. What is complex to one person may be quite simple to another. To look upon growth as meaning increase in size precludes its usefulness in the mental, motor and emotional spheres. The terms development and maturation, as here used, refer to the innumerable stages and processes through which human form, function and behavior pass from conception to maturity. Development is innately determined and can be influenced by the environment to only a minor degree. Growth, on the other hand, is strictly

This chapter, by the authors, was first published under the title "Growth, Development and the Care of the Child" in the January 1940 issue of *The American Journal of Diseases of Children,* pages 112-117, and is reproduced here in revised form by permission of the American Medical Association Press.

a quantitative concept and refers, in the physical sphere, to change in number or size of units and, in the psychologic sphere, to the acquisition of information, skills and emotional interests. Growth is susceptible to environmental influence.

The significance of this principle may be illustrated in the case of speech. Once the child has matured to the speaking stage the vocabulary may be increased through a process of learning; but, under normal circumstances, a child who has not yet reached this developmental phase cannot be taught intelligible speech by any known method, just as the onset of the adolescent spurt in growth cannot be initiated except by highly artificial means.

We are indebted principally to Gesell for much of the objective evidence on which this principle is based. He pointed out that even the apparently random movements of the young infant are obedient to pattern and that the changes which occur as the child grows older follow a definite sequence. He described studies on the similarity of behavior in one-egg twins and showed, by the application of training procedures in one twin, the other being used as a control, that training has no significant effect on prehension, manipulation and constructive exploitation.

A maturation process may also be observed in the altered emotional responses of children to various situations. The newborn child is endowed with a fairly elaborate emotional equipment which includes fear, anger and joy. The fear response to abrupt change in position is one of the most striking of the newborn infant's reactions. Nevertheless, within a few months after birth, the child may be tossed about by a fond parent and will actively enjoy a situation which only a short time before would have led to fear and crying. A similar maturation process in the emotional sphere is seen in the infant's increasing awareness of strangers. Infants of about 10 to 20 weeks respond to the smile of an observer with pleasure. From the age of 20 weeks the negative responses increase until the fortieth week, after which pleasurable responses can again be readily elicited.

The fact that maturation follows an innate pattern which is not susceptible to attempts at acceleration has great practical significance. It means that the child's emerging potentialities and feelings must be understood if the greatest benefit is to be obtained from training and education. It is useless to attempt to train a child to a mode of behavior until he has matured to the stage where he is ready for such training. Indeed training procedures introduced prematurely not only are ineffective but may be actually harmful. Parental disappointment at the child's failure to live up to the expectations leads to a strained atmosphere and gives the child a sense of anxiety, inadequacy and defeat.

An attempt to accelerate the maturation sequence is probably the commonest error of parents while the child is young. Parental haste is motivated by eagerness for the child's welfare, by a feeling, probably erroneous, that early development is desirable and promises great intelligence in later life and by a spirit of competition among mothers. Premature training procedures are usually directed toward control of the bowels and the bladder, and one is often told by a proud mother that the infant has been "trained" at 4 or 5 months, an age at which it is obvious that a sense of responsibility for the act, which is an essential part of real training, cannot be present. Such infants frequently relapse at a later age,

and training may then be much more difficult than with other children and is likely to lead to a parent-child conflict.

There are numerous other situations in which parental attempts at acceleration lead to disorders in conduct. During the period of emerging self-dependence, when the child is exercising newly acquired skills, some parents put an undesirable strain on the child by demanding a perfection of performance for which the child is not developmentally ready. The difficulties which arise when a young child is expected to keep a promise come under the same category.

FUNDAMENTAL NEEDS OF THE CHILD

It is becoming increasingly evident that the unfolding of the psychologic maturation sequence, like that of the physical, is obligatory and not optional. If optimal health is to be attained the maturing child must have an outlet for his developing skills and feelings, and it has now become customary to speak of the psychologic needs of the child just as one speaks of the nutritional needs.

Experimental evidence for this point of view has been presented by Levy, who studied the sucking needs of puppies. He found that puppies, fed from nipples with large holes so that the sucking time was short, acquired vicarious sucking activity to a much greater extent than puppies who were fed from nipples with small holes and hence sucked longer at feeding time. Furthermore, the short time feeders were much more restless and required more food to maintain their weight than did the long time feeders. Levy referred to the observation of Carlson that calves, taken from the udder and fed from a bucket, adopted ear licking and similar habits analogous to finger sucking in infants.

In everyday pediatric practice there are numerous examples of children who are traumatized by lack of gratification of the psychologic needs. A simple example is seen in infants whose hands are restrained because they suck their thumbs and who are thereby not allowed to gratify the need to exercise their developing motor skills. In the over-protected child there is failure to supply an outlet for the need of self-expression. The most striking clinical condition resulting from insufficient satisfaction of a psychologic need is seen in the so-called rejected child, for whom the parental affection is insufficient. The need for affection is a definite organic requirement, and among mammals mothering and cuddling are universal.

DEVELOPMENTAL RETARDATION

We have already discussed the disadvantages of attempting to accelerate the maturation process. There is danger also in retardation. The growing up process implies not only the acquisition of new modes of behavior but the relinquishing of outgrown patterns as well. There is an analogy here to nutrition; a diet entirely of milk, which is adequate for an infant, would be harmful if continued during childhood.

A simple example of retardation may be seen in the eating situation. Early in life the infant obtains his food by sucking. Toward the end of the first year,

the sucking urge diminishes and the child matures to the stage where biting and chewing become dominant in eating behavior. Continuance of sucking after this period represents a developmental delay which manifests itself in immature behavior. To refer to the overprotected child again, not only is there failure to acquire modes of behavior for which he is developmentally ready, but there is retention of outgrown patterns as well. An example of retardation in the emotional sphere is observed when the overaffectionate mother keeps the child emotionally dependent on her. During the period of emerging self-dependence, when the child is learning to do things for himself, parental affection, encouragement and applause are essential. But as the child matures he must learn to rely on his own inner satisfaction, and parental attitudes which at one time were necessary become actually harmful as they lead to a qualified and incomplete self-dependence.

INDIVIDUAL VARIABILITY

Implicit in the attitude toward the developing child is the timing element. There is an optimal time, which must be adjusted to the maturation sequence of the individual child, when training procedures should be instituted, and premature efforts, like delayed efforts, are harmful and interfere with the full development of the child's potentialities. Since each child is an individual, different from all other children, the psychologic needs at various ages must always be interpreted clinically. Chronologic age helps only in a general way in the understanding of those needs in any specific child.

DISCIPLINE

Gratifying the child's psychologic needs does not mean unlimited indulgence. Through training and discipline the child's maturing capabilities and emotions must be directed into useful and socially acceptable channels. Training implies positive encouragement and direction, whereas discipline implies restraint.

Training in regular eating and in control of the bowels and bladder and regulation of the emotional reactions serve to free the child from domination by his own physiologic functions, so that he can adapt himself to the social world. So far as discipline involves frustration or deprivation, it is important to make these interferences emotionally acceptable to the child by giving adequate reassurance of affection and concern.

THE REPAIR OF PSYCHOLOGIC INJURY

The repair of injury due to dietary deficiency is striking, and recovery from the deficiency diseases is ordinarily prompt and complete. The deformities associated with vitamin D deficiency and the destruction of the eye which may take place in vitamin A-deficient persons are important exceptions to this general principle.

There is a widespread conviction that psychologic trauma is irreparable and that injuries sustained during infancy and early childhood permanently color

the personality. Though this is probably true in some instances, it is an unwarranted generalization based mainly on the clinical observation of patients with severe psychologic trauma and psychiatric disease. The persons who are permanently affected by improper training are those in whom the unfavorable treatment has continued to operate over long periods during childhood and even into adult life. If the situation is rectified soon enough, there is every reason to believe that the effect on the personality will be without serious consequences in the large majority of instances.

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CHAPTER II

ETIOLOGY

Heredity: Sex, The Emotions, Intelligence, Special Abilities and Disabilities, The Language Functions, Lateral Dominance, Undesirable Habits. Race, Nationality, Religion. Physical Status: Acute and Chronic Illness, Physical Handicaps, Endocrine Disorders, Disease of The Brain, Obscure Difficulty in Vision or Hearing, Combination Disorders, Fatigue. The Mentality. Age. The Parents: Mentality, Attitudes, Incompatibility, Unstable Home, Illness, Socio-Economic Status. The Siblings. The School and Playmates.

Disorders of thinking, feeling and motility like physical disorders are generally dependent on multple etiology. The child's problem may arise principally out of inadequacies within himself or may result from conditions in the environment which affect him adversely. Most often difficulties appear when both the individual and his environment are at fault. Thus the child with strabismus may not suffer emotionally until he is teased by his playmates and the mentally dull child may be well-adjusted and happy until he enters school and finds himself unable to live up to the standards set for him by well-meaning but over-ambitious and uninformed parents.

HEREDITY

It is reasonable to assume that, just as children resemble their parents in physical appearance so will they, to some extent, resemble them in their mental, emotional and motor patterning. It is for this reason that a set of circumstances which is traumatic for one child may be entirely without effect for another.

SEX

The Emotions.—Sex differences in personality and behavior become apparent early in life. Girl infants are said to be more placid and less aggressive than boys. This difference becomes more striking during the preschool years and is reflected in the larger number of accidental deaths among boys at this age. Outbursts of rage and tantrums are also more frequent in boys.

During the school years disorders associated with aggressiveness such as fighting, stealing, running away are much more common among boys. All "gang" behavior is more frequent in boys. Boys pass through a period of untidiness whereas girls tend to be neat and to take an interest in their appearance at an earlier age.

Problems based on sensitivity and jealousy occur more often in girls. Girls

cry more easily than boys and usually experience greater difficulty in making emotional adjustments during adolescence and therefore come into conflict with their parents more often than boys. Sex problems assume more serious proportions in girls. Problems associated with fear and anxiety also are more common in girls.

Intelligence.—No difference has been found in the average I.Q. of boys and girls but the variability is greater among boys. There are more male than female idiots and deficiency due to congenital cerebral defect, injury at birth and mon-

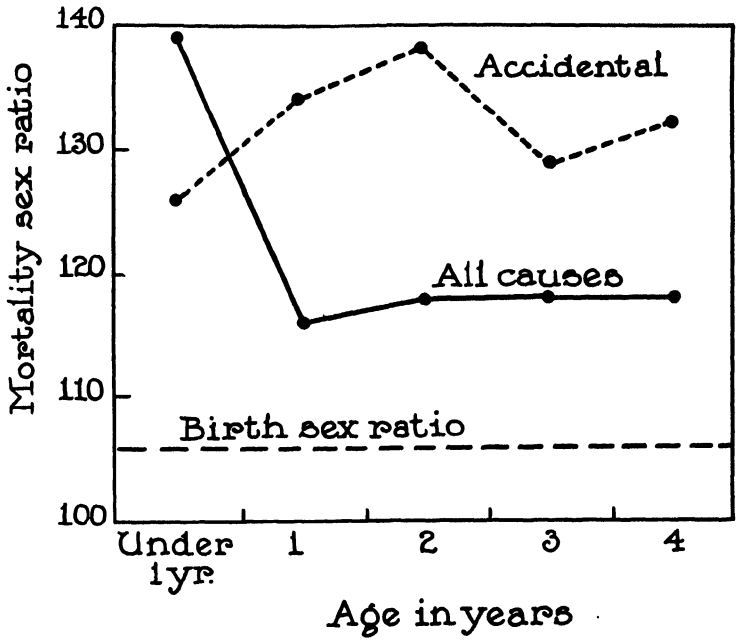

FIG. 1.—THE MORTALITY SEX RATIO FROM "ACCIDENTAL CAUSES" COMPARED WITH THE MORTALITY SEX RATIO FROM "ALL CAUSES" FOR WHITE CHILDREN DURING THE FIRST FIVE YEARS OF LIFE.

The mortality sex ratio is the ratio of male to female deaths multiplied by 100. After the first year of life the proportion of male to female deaths from "accidental causes" is much higher than from "all causes" (Data from U. S. Mortality Statistics, 1924-1933).

golian idiocy is more frequent in males. There are also more gifted children among males, the proportion in Terman's group being 121 males to 100 females. Since the ratio of male to female births is approximately 1.06 the corrected incidence of giftedness among males is about 1.14 times as great as in females.

Special abilities are much more common in boys than in girls. Arithmetical, mathematical and mechanical talents are rare in females. Idiot savants are almost entirely of the male sex.

Language Functions.—On the average, girl infants start intelligible speech earlier than boys. Language difficulties and various types of speech defects such as stuttering, indistinct speech and incessant talking occur more often in boys. Reading difficulties are about four times more common among males. Spelling and writing disabilities are also more common in boys.

Lateral Dominance.—According to most students of the subject left-handedness is about one and one-half times as frequent in boys as in girls.

Undesirable Habits.—Fecal incontinence is much more frequent in boys than in girls. Nail-biting is seen with equal frequency in both sexes but toe-nail biting occurs almost exclusively in girls.

RACE, NATIONALITY, RELIGION

Feelings of inferiority may develop in children because of differences in race, nationality or religion. To the child, being different is highly undesirable and makes him feel inferior and unworthy. Occasionally a child will feel superior to the group because of his race, nationality or religion. This results from a misconception of his relation to society and may cause the individual to become bigoted and prejudiced. Correction of this condition is not easy.

According to Bender, specific reaction patterns in behavior seem to occur in the Negro child in the form of blocking, mutism, catalepsy and negativism and a facile capacity to fall asleep. These modes of behavior may be observed in reaction to emotional conflicts as a mechanism of escape from intolerable situations, or in association with organic disturbances. Dramatic motility pictures with spontaneous dancing may be part of a psychologic picture.

Negro children are aware of their racial unpopularity and suffer accordingly. Problems in Negro children arise as a result of unsuitable social and economic situations, associated with overcrowding, poor recreational facilities, inadequate protection and poorly crystallized family constellations.

PHYSICAL DISEASE

The effect of acute and chronic illness on the personality and behavior is well-known. Sick children are liable to be irritable, unhappy and readily fatigued. Physical handicaps such as lameness, strabismus, unusual stature may also lead to personality difficulties. Of the endocrine disorders which may lead to difficulties in children by far the most common is thyroid insufficiency.

Disease of the brain, such as encephalitis, cerebral defects, injury at birth, may affect the psychologic status. In encephalitis the acute episode may have been insignificant and unassociated with symptoms pointing to the central nervous system. Recent studies show that, in a considerable number of children with psychologic disturbances, encephalographic and electroencephalographic changes are present.

The possibility of a *hearing defect or an obscure eye difficulty* should always be considered in the evaluation of school retardation. Speech defects are not infrequently secondary to impaired hearing. Disturbances of fusion, improper eye movements or conversion from the dominant hand may be the basis for reading or writing difficulties.

Combination Disorders.—A number of disorders which have been looked upon in the past as being primarily psychogenic are coming to be considered as having a physical component. Thus stuttering appears to be based frequently

on a defective cerebral equipment with important emotional aspects contributing to the pathogenesis. There is reason to believe that enuresis and car-sickness fall into this group of combination disorders.

Fatigue is in many instances the exciting factor in psychologic disorders. A tired child is apt to be fussy, irritable and easily provoked. Small incidents annoy him, his temper is easily aroused and misunderstandings and scenes result. The chronically fatigued child has great difficulty in adjusting to the usual routine. Even small duties are tiring and he is apt to refuse to try. Often, out of sympathy for him, the parents perform his assigned tasks and so he does not learn to take responsibility. If this continues for some time he may never learn the ordinary routine of children of his age. He grows to expect special consideration and fits poorly into an environment where he must compete with his peers.

MENTALITY

Some of the problems of the child with inferior intelligence are dependent on his low mental status but others result from poor handling of the defective child. Very low intelligence is frequently accompanied by unsightly habits such as drooling, ungainly gait, poor habits of cleanliness, etc., which are unpleasant and make the child unattractive. He receives little companionship from other children and little affection. Some high-grade defectives become aware of their mental inferiority and react with shyness, reticence and unhappiness. When the parents fail to appreciate the mental limitations of the child they may demand of him school achievement which is beyond his capacity and problems in behavior frequently develop in this way. Misplacement in school will result in the child's becoming bored, inattentive and often mischievous and aggressive.

Occasionally behavior difficulties arise when the parents of superior children do not realize their abilities and prevent them from developing their talents and skills or do not allow them the self-dependence they may be ready to assume. Many intellectually advanced children are immature socially or emotionally and problems may arise when they find themselves unable to compete with older children of similar mental age.

AGE

The problems which arise during infancy are centered about the child himself. There may develop such habits as finger-sucking, tongue-sucking, head-rolling, excessive crying, breath-holding. Where the infant fails to receive adequate stimulation, as for example in an institution, there may be failure to gain weight adequately, pallor, apathy, increased susceptibility to infection.

As the child matures to the stage where he is able to move about, talk and explore his environment, problems arise which involve his relations with the persons about him, especially the parents and siblings. During the period roughly from 1 to 6 years, when he is acquiring the technics of self-dependence and finding his place in the home, aggression, negativism, anger, jealousy and revenge are

prominent. These responses are manifested by disobedience, temper tantrums, refusal to eat, sleep disturbances, spite reactions and attention-seeking behavior.

With entry into grade-school, the child's interest shifts gradually away from the home to school and playmates. New problems appear such as school retardation, special disabilities, unpopularity with schoolmates, gang activities such as pilfering and lying.

During adolescence, the child finally frees himself from emotional dependence on the parents. This period of transfer from childhood to maturity is characterized by conflicts within the adolescent himself which may have little relationship to the environment but which are frequently intensified by the parental failure or unwillingness to appreciate the meaning of this developmental phase.

Many of the problems of adolescence occur because the parents do not appreciate the need of the adolescent child to free himself from their control and try out his own ideas. The discovery that parents and teachers are not infallible leaves the child uncertain and confused. The larger problems about him, social, economic, religious and political, enlist his interest; yet he lacks the information and experience to make satisfactory decisions. He is uncertain about his own role; at one moment he feels himself grown-up and at another he realizes that he is still a child.

In late adolescence sex problems and problems associated with emancipation from the home and choice of a vocation occur. Problems of delinquency appear at this age.

PARENTS

Mentality.—Certain problems have their origin almost entirely in the parents. This may be lost sight of in the diverse ways in which the child reacts to the situation. A parent of inferior intelligence will often fail to understand the changing needs of the growing child. If the child is also inferior, slovenly habits are apt to develop along with a lack of responsibility toward society. In defective families there is usually considerable quarreling and fighting and the children are subjected to corporal punishment. The parents are unable to carry out suggestions and frequently do not even understand them. Drunkenness is not uncommon and sex offenses such as premarital pregnancy and incest are frequent.

When the child's intelligence is superior to that of a dull parent there is apt to be much conflict in the home. The child refuses to accept parental authority and resents suggestions. He considers himself superior and fails to realize that greater experience often aids the parent in making wiser decisions. Some of these children run away, others become so unmanageable that their parents request placement for them while still others are able to readjust their lives and achieve success through the assistance of teachers, club leaders or other adult friends who serve as parent-substitutes.

In some instances the parents are not unintelligent but are merely ignorant of or uninterested in proper methods of child rearing. The child may be neglected physically, not receiving proper food or rest. Training may not have been

undertaken at the proper time so that routine habits are not established and the child continues to take the bottle, to wet the bed, etc., for many months after training should have been completed. These training difficulties are most often observed during the preschool period as later on the child himself acquires new forms of behavior from association with friends and teachers. Proper instruction for the parent or placement of the child in a nursery will usually correct the difficulties.

Attitudes.—The major environmental factor influencing personality development during childhood is the attitude of the parents. The child has need for a certain amount of affection, praise, encouragement, guidance, restraint and if he does not receive these from his parents he will respond with disturbances in his behavior and personality. Defects in parental attitudes may be dependent, primarily, on inexperience or ignorance of proper methods of child rearing or they may be the expression of distortions in the parental personalities.

Parental *incompatibility,* with friction and instability at home may have a profound effect on the child, leading to confusion and insecurity.

Illness.—Illness of one of the parents may affect the child markedly. The mother with hyperthyroidism is apt to be nervous, easily upset, quick tempered and quick to tears, easily fatigued and unable to carry on her usual routine. It is hard for the child to understand that his mother's behavior toward him is secondary to her disease.

Severe illness of a parent, with the accompanying anxiety and disruption of the home, have a profound influence on the child who may retain his feeling of apprehension and worry for many years. Sometimes illness in the family imposes sacrifices on the child, he must be quiet and keep out of the way, he is expected to do extra errands or help with household duties or nurse the patient.

Chronic illness, such as heart disease, tuberculosis or insanity, which necessitates the removal of the parent from the home, affects the child not only through the adjustment necessary because of the breaking up of the home, but also through the associated anxiety and the need, in many instances, to combat the lowered morale of the other parent as well. Instances where the mother is removed from the home affect the child more than when the father is away.

Socio-Economic Status.—During school age the socio-economic staus of the family is important only as the child wants to be like his friends in every way and is embarrassed by any deviation in his parents or home because of greater or less wealth. Being able to have many personal pleasures is not of great importance. The child who is deprived of something because the parents can not afford it will usually, after a little coaxing or crying, accept the fact. This is not the case during adolescence. In some instances the child is resentful and vengeful and many arguments ensue, in others he feels inferior and unworthy and becomes shy and reticent, refusing to join in social activities for fear that his lack of material advantages will be noticed. Both these attitudes are more common in adolescent girls than in boys. Boys are more likely to have the urge to help the family budget and try to get jobs, sometimes even leaving home so that they will not be a burden on their families. In rare instances boys steal rather than see deprivation at home.

SIBLINGS

Though jealousy of an older child toward a newly arrived sibling is natural and hence to be expected, this feeling may become exaggerated when the previous management of the older child has been at fault or when invidious comparisons of the children are made. (See Chapter XXI.)

SCHOOL AND PLAYMATES

Certain problems such as retardation in school, unpopularity with teachers or playmates, clumsiness at games arise in relation to the school situation. Proper placement in school and suitable appreciation of the child's personality and ability are essential for success. It is important to keep in mind that, in many instances, the reasons for difficulties at school may be found in the home. If the child is frightened or feels unjustly blamed by his teachers he may become self-conscious, shy and retiring and he may refuse to go to school.

Not infrequently the satisfying experiences in the school may compensate for the harmful effects of a home which the child finds unsatisfactory and in which he is unhappy.

Contact with teachers may have a deep and lasting influence on the child's personality. If the associations are pleasant he may gain not only knowledge but security. Some teachers make very satisfactory parent-substitutes.

Before adolescence there is little permanency in friendships so that the child is not greatly influenced by the behavior of the children about him. There is considerable shifting of friendships and this is advantageous since it teaches the child to adjust to different personalities. A certain amount of group spirit develops but it is not until prepuberty that the gang comes into existence.

On the other hand friendships made during the later school years, especially at high school, have great influence and are often permanent. The adolescent is eager to be like his schoolmates and he imitates their behavior, attitudes and dress. What they do, what ambitions and ideals they have are most important. If he has the right sort of companionship he will gain much and, conversely, he will be easily influenced by bad companions.

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CHAPTER III

HISTORY TAKING

Family History, Siblings, Nurse. Birth History. Feeding. Sleep. Motor Development. Language Development, Handedness. Emotional Development. Training and Discipline. Undesirable Habits. School, Play, Playmates, Social Orientation. Religious Interests. Sex Interests. History Form.

In the large majority of children brought to the pediatrician, regardless of the nature of the complaint, careful history taking will reveal errors in child rearing and disturbances of behavior which, though minor, are worthy of correction. The suggestions incorporated in this chapter are designed primarily to amplify the customary pediatric history but they may also be used as a basis for the investigation of specific complaints.

Family History.—In addition to the usual questions regarding family ailments, valuable information can often be gained from a knowledge of the parental ages, education, religious affiliations, business, professional and social interests.

Parents who have had to wait a long time after marriage in order to have a child or who have married late in life, are liable to be overaffectionate and overprotective. On the other hand, where conception was not desired or where the child was born to young parents before they were mature enough, emotionally, to accept the status of parenthood, parental indifference or rejection is not unlikely. Wide differences between the ages of the parents, differences in religious affiliation or in educational background may lead to parental incompatibility and disturbances in the child.

Discretion is necessary in obtaining data about the parental attitudes toward the child. Much information can be obtained if the pediatrician makes a point of becoming acquainted with the fathers of children who are under his care. The question "how does the child behave" sometimes yields considerable information. A parent who is sincerely satisfied with the behavior of his child is hardly likely to be a frankly rejecting parent. Furthermore this question helps to define the sort of conduct which the parent desires. For example, one mother may say, "He is a good boy, always reading and studying," whereas another complains, "I don't know what to do with him, he is always with his books and refuses to go out and play."

The Siblings.—Parents differ in their attitudes toward their own children and it is not unusual to find that a parent is overaffectionate toward one child and rejecting toward another. Parental preference for one child sharpens the jealousy feeling among the siblings.

The age relationship of the siblings is of importance since sibling rivalry is likely to be most pronounced when the older child is two or three years of age at the time of the birth of a younger child. There is greater likelihood of sibling jealousy when the children are of the same sex than otherwise. It is more common in two-child families and more often evidenced in the behavior of the older toward the younger child.

The Nurse.—In homes where children are reared by a nurse, her personality and attitudes may be of greater influence on the child than are those of the parents. Nurses generally prefer infants to older children since they are specially trained in the care of the infant and their success can be dramatically recorded by the weighing scale. Sometimes a nurse who has had the care of one child for a number of years may resent the birth of a second child.

Grandparents are likely to be overindulgent toward the child. They both overpraise and overpet him.

Birth History.—The child's birth history may throw considerable light on the parental attitudes. Complaints about difficult labor are more frequent in the rejecting than in the affectionate mother. The father may resent the child when maternal suffering or illness has been associated with pregnancy or birth. A desire for more children is good evidence of parental affection.

Parental disappointment with the sex of the child may be the starting point for difficulties later on.

Feeding History.—Information regarding the duration of breast feeding, whether the mother's reaction to nursing was pleasant and eagerly anticipated, or whether it was an annoying and irritating duty, and the reasons for weaning, may be very helpful in evaluating the maternal attitude toward the child. The physician should ask about the willingness of the infant to be transferred from breast to bottle feeding and the attitude of the infant toward new foods and new methods of feeding, such as spoon and cup, and chopped instead of strained foods. If feeding difficulties are present, more details should be obtained.

Sleep.—In discussing the child's sleeping habits relevant questions are the hours of sleep, the child's ability to fall asleep, the character of sleep (whether quiet or restless), the presence of disturbances such as fear of the dark, nightmares, night-terrors, and sleep walking. Where and with whom the child sleeps may give insight into sleeping difficulties.

Motor Development.—Query should be made as to the time of sitting up, walking and talking.

Language Development and Handedness.—It is important to question the mother as to the age at which the infant started to babble and to ask if he was ever unusually quiet. Does he now speak clearly and intelligibly? If the child goes to school does he read well and write legibly and does he have any special difficulties in school work? Is he fond of reading? Is he apt at sports and interested in games? It should be remembered that language difficulties are sometimes associated with clumsiness and awkwardness. The child's hand preference for untaught acts, such as ball-throwing, cutting with scissors and hammering should be investigated. If there is any discrepancy in choice of master hand the parents should be asked if conversion from left- to right-handedness was attempted and

what means were employed? If the child is left-handed what is the attitude of the parents toward this?

Emotional Development.—The personality of the child should be investigated. What sort of an infant was he? Was he quiet, placid and contented or was he fussy, irritable and frequently crying? Was he active, alert and aware of what was going on about him? As he developed did he take pleasure in newly found activity or was he fearful of new situations? Is he at present a happy child or is he moody and fearful? Is he courageous, foolhardy or cautious? Is he aggressive or submissive, open or secretive, honest or deceitful? When thwarted does he respond with anger, screaming and tantrums; with sullenness and sulkiness; with assumed bravado or with reasonable intelligence and emotional control? The child's behavior under varying circumstances should be inquired into. Can he be counted on to behave well when he is with strangers? Is he better behaved with mother or father?

Training.—Information about the daily routine may be of value in determining to what extent the child is self-reliant and responsible. Is he able to do the things for himself which may be expected at his age and is he willing to do them? Is he properly trained for self-eating, self-dressing, etc., and is his mother satisfied with the results? Is he trained for defecation and micturition? Has he been prematurely trained? The attitude of the parents toward accidents or relapses is often revealing.

Discipline.—Are disciplinary measures often necessary? What methods are employed and what is the child's reaction?

Undesirable Habits.—The physician should inquire into any undesirable habits the child may have or have had, such as finger-sucking, nail-biting, enuresis and sleep disturbances, and the methods of correction attempted, since many parents fail to mention these unless specifically questioned. The parents' attitude toward the habit is of considerable importance particularly as to whether shame or resentment enter the picture. If there is considerable difficulty here a more intensive history relating to the particular habit should be undertaken.

School.—If the child is of school age, his progress and behavior should be asked about, as well as the parental attitude toward his success or failure. It is especially important to note whether too much is expected of him at school. If the child is dissatisfied or doing poorly, is it because the work is too difficult or too easy, because he is unpopular with his teacher or his schoolmates, because he is unable to live up to parental standards of excellence, because he is burdened with extracurricular duties? Is there a special difficulty in reading, writing, spelling, speaking? Is there a defect of vision or hearing?

Play.—A great deal of information can be obtained from a knowledge of the play interests of the child. The amount of free time available for play serves as a measure of the amount of strain which is being put on the child. What sort of games are preferred, and what age and sex groups does the child choose? In general bright children prefer to play with children who are older than themselves although there are many exceptions. To what extent do the parents direct the child's play? Aptitude at sports is an index of the child's motor coordination.

Does the child spend much time in reading and what types of books does he like? Does the radio consume much of his time and what programs does he listen to? Does he enjoy motion pictures and what are his favorite pictures? Has he any hobbies and how intensively does he follow them? Does he find his own hobbies or have they been foisted on him by his parents?

Playmates.—Is the child popular with his schoolmates? Is he a leader or follower? Is he allowed to choose his own friends? What types of playmates does he prefer and do the parents approve of them? Do they make any effort to provide him with companions?

Social Orientation.—Is the child aware of the economic status of the family and how is he affected by it? Is he aware of current world events? What is his attitude toward money and what are his vocational ambitions?

Religious Interests.—If the child is approaching adolescence his point of view toward religion may be of interest. At this age many children turn toward the church for greater security.

Sex Interests.—To understand the child's interest in sex one must know not only if he has shown normal curiosity about sex but whether he has received satisfactory answers to his questions. Are his parents willing and able to furnish him with the information he desires or is he referred to books? What is the attitude of the parents toward his questions? Have they made any effort to instruct him other than to answer his questions? Has he been prepared for the physical changes of adolescence, for the emotional changes? What is the parents' attitude toward the child's play activities and social life with the other sex?

A form which may serve as a guide in history taking is appended:

HISTORY FORM

1. Family History
   a. The parents
      (1) ages
      (2) education
      (3) religious affiliations
      (4) business or profession—adequacy of income; maternal occupation before marriage.
      (5) social interests
      (6) attitudes toward child, favorites, disciplinary methods.
   b. The siblings
      (1) ages
      (2) personalities
      (3) school performances
      (4) parental attitudes toward children
   c. The nurse, grandparents, etc.
      (1) age, training, nationality
      (2) how long with family? Nurse to which children?
      (3) attitude toward children
      (4) methods of discipline

2. Birth History
   a. Was labor difficult and prolonged?
   b. Was child of the desired sex?
   c. What was the father's reaction?

3. Feeding History
   a. Was child breast or bottle-fed?
      (1) If bottle-fed why was child not breast-fed?
      (2) If breast-fed
         (a) How long?
         (b) What was maternal reaction?
         (c) Was there difficulty in weaning?
   b. Later feeding.
      (1) Have there ever been feeding difficulties? When? How handled?
         (a) Anorexia
         (b) Fussiness about food
         (c) Dawdling
         (d) Vomiting
         (e) Failure to chew
         (f) Failure to swallow large particles
         (g) Slow eater

4. Sleeping
   a. Hours of sleep.
   b. Regularity of routine. Any rituals?
   c. Sleep arrangements. Does each child sleep alone, in separate room or with parents, sibling or nurse? Is light necessary?
   d. Sleep disturbances. Restless sleep, difficulty in falling asleep, somnambulism, sleep talking, night-terrors, nightmares.

5. Motor Development
   a. Age when child smiled.
   b. Age at sitting up without support.
   c. Age at walking alone.

6. Speech
   a. Did child babble freely early in life or was he very quiet?
   b. Age when child said "mama," "dada."
   c. Age when child used other words with meaning
   d. Speech defects
      (1) Indistinct or imperfect speech
      (2) Stuttering

7. Hand-preference
   a. For writing
   b. For untrained acts
   c. Attempts at conversion

8. Emotional Development
   a. General
      (1) Happy or sad
      (2) Aggressive or submissive
      (3) Open or secretive
      (4) Honest or deceitful
      (5) Cautious or fearful
      (6) Courageous or fool-hardy
   b. Reaction when thwarted
      (1) Anger, screaming, tantrums
      (2) Sullen, sulky
      (3) Attitude of unconcern
      (4) Cheerful acceptance

9. Training
   a. Age and methods employed in training for bowels, bladder, self-eating, self-dressing, self-dependence in making decisions and purchases, choice of friends.

10. Discipline
    a. Is there much need for disciplinary measures?
    b. Methods employed
    c. Child's reaction

11. Undesirable Habits
    a. Thumb-sucking, tongue-sucking, nail-biting, enuresis, constipation, use of cathartics, tics, head-banging, dishonesty, stealing, lying.
    b. Methods of correction employed.
    c. Child's reaction to the habit and to the corrective attempts.

12. School
    a. School performance. Marks received; rank in class.
    b. Behavior at school.
    c. Does child dislike school? If so is fault with
        (1) Child's inability to do satisfactory work?
        (2) Work too easy?
        (3) Lack of interest?
        (4) Unpopularity with teacher?
        (5) Unpopularity with schoolmates?
        (6) Failure to satisfy parental ambitions?
        (7) Excessive extracurricular duties?
        (8) Is there special language difficulty, speech, reading, writing, spelling?
        (9) Is there physical defect — vision, hearing?

13. Play
    a. Amount of time spent in play.
    b. Kinds of play preferred.
    c. Age group preferred for play
    d. Sex group preferred for play.
    e. To what extent do parents direct play? To what extent do parents limit play?
    f. Aptitude at games.
    g. Reading interests — kinds of books preferred.
    h. Radio — amount of time spent — programs preferred.
    i. Moving pictures — how frequent — pictures preferred.
    j. Hobbies — types and persistence.

14. Playmates
    a. Popularity with playmates. If unpopular, why?
    b. Leadership.
    c. Character of playmates.
    d. Parental reaction to playmates.

15. Social Orientation
    a. Is child aware of the economic status of the family? How is he affected?
    b. Is child aware of and interested in current world events?
    c. What is child's attitude toward money?
    d. What are child's vocational ambitions?

16. Religious Interest

17. Sex Interest

CHAPTER IV

THE EXAMINATION

The Child: Physical Appearance, Motor Status, Mental Status, Emotional Status. The Parents. The Nurse.

The customary "physical" examination may be extended to yield information regarding the motor, mental and emotional status of the child and his psychologic environment.

THE CHILD

Physical Appearance.—Note should be made of physical handicaps since they often influence the child's personality. Even minor deviations from the usual, such as red hair, freckles, shortness, tallness, obesity, may lead a sensitive child to feel embarrassed.

The manner in which the child is dressed may throw considerable light on the parental attitudes. Are the clothes neat and clean or are they untidy and dirty? Is the child overdressed or dressed in an unusual manner? Does he undress and dress himself in the office or must he have assistance?

Motor Status.—Is the child robust and muscular or does he appear weak and frail? Is there undue awkwardness, hyperactivity or tics?

Mental Status.—Where specific complaints are present a more or less accurate estimate of the mental status of the child is necessary. This can be obtained best by a determination of the Intelligence Quotient but where such a test is impossible or not specifically indicated some estimate of the mentality of the child may be obtained from the promptness and alertness of response to questions. Simple questions which are useful, when viewed in relation to the child's age, are his address, telephone number, birthday, day of week, month and year, coin values. Useful also are the child's ability to carry out simple commands, to distinguish his right from his left hand, to repeat sentences and numbers. As far as possible the child should be kept unaware that he is being tested.

The child's *speech* should be observed and disturbances noted. Where there is reason to believe that difficulties in any of the other language functions (reading, writing, spelling) exist, these should also be investigated.

The child's *choice of hand* should be observed particularly in relation to untaught acts; and where doubt exists as to the child's dextrality, tests for handedness, eyedness and footedness should be made (see Chapter XIV).

Emotional Status.—The behavior of the child toward his mother, the physician and the examination should be carefully observed. Does the child try to manage the office situation himself, is he coöperative and friendly, is he suspicious, fearful, resistant? Is he aggressive and assertive or submissive toward his

mother? Does he interrupt the mother's conversation frequently, does he remain quietly in the background or does he take a natural interest in the conversation? Is he alert or dull, friendly and cooperative or antagonistic and resistant, self-assured or agitated and fearful, complacent or irritable, quiet or hyperactive, shy or bold, overconfident or timid?

THE PARENTS

An essential part of the examination is an estimate of the mother. What is her mental status? Does she have an appreciation of her obligations to her child? Does she appear to be a well-balanced, well-adjusted, happy person? Is she affectionate, indifferent or rejecting toward the child? Is she overauthoritative or overindulgent, overanxious or apathetic? Is she unduly proud of the child or is she overcritical? When possible the father should also be observed.

The mother's attitude toward the physician will indicate the best method of approach to use. If she appears to have confidence in him, helping her in the understanding of the child's problems will be easy. If, on the other hand, she appears unwilling to accept his authority and insists on questioning his treatment he must proceed slowly and try to build up an understanding attitude. In some instances the father may be of great help in gaining the cooperation of the mother.

The parents' method of controlling the child during the examination and discussion is often illuminating. Some mothers get the child's cooperation through explanation and understanding while others resort to force, threats or punishment or begging, promising and bribing.

Parental attitudes toward a particular child change as the child matures and as other siblings arrive. Young mothers, during the first few weeks after the birth of a child, may appear indifferent but this attitude is often temporary and therefore judgment should be reserved.

Observation of the mother in the presence of the siblings is often revealing and brings out parental preferences.

THE NURSE

If a *nurse* is present during the examination her attitude toward doctor, child and mother should be noted. What is her method of control? Does she or the mother appear to have authority over the child? What is her attitude toward the siblings, toward the father?

EXAMINATION FORM

A. The Child
   1. Physical appearance
      a. physical handicaps
      b. dress
      c. cleanliness, neatness
   2. Motor status. Robustness, undue awkwardness, hyperactivity, tics.

3. Mental status
   a. Alertness in response to questions
   b. The language functions
      (1) Speech
      (2) Writing
      (3) Reading
      (4) Spelling
   c. Handedness, eyedness, footedness
4. Emotional status
   a. Personality traits.
   b. Attitude toward parent.
   c. Attitude toward sibling, if present.
   d. Attitude toward physician.
   e. Attitude toward self
      Confidence and assurance

B. The Parents
   1. Mental status
   2. Emotional status (parental personalities)
   3. Attitude toward child
   4. Attitude toward sihlings
   5. Attitude toward physician

C. The Nurse

CHAPTER V

DIAGNOSTIC METHODS

History and Examination. Hearing, Audiometer Test. Vision, Squint, Fusion Difficulties, Color Blindness. Interview with Child. Group Observation. Play Technics, The Puppet Show, Molding of Plastic Materials, Drawings and Paintings. The Rorschach Test.

In the large majority of children with disturbances of personality or behavior a careful history from the parent and observation and examination of the child and parent are sufficient to establish a diagnosis and indicate the course of treatment to be followed. In a certain number of children, however, other procedures are necessary. There may be obscure defects of hearing or vision which escape detection by the usual examination and require special technics and equipment. Where there is school difficulty an intelligence test is ordinarily indicated and, in many instances, special tests for reading, writing, spelling, arithmetic. In some instances intensive interviews with the child and observation of the child in group play or in solitary play are helpful. Home visits by a trained worker, school reports of work and conduct, reports of behavior at the social club, camp, etc., are useful. Some of the "laboratory" procedures which have been found useful in the study and treatment of children with psychologic disturbances are the following:

1. Tests for hearing.
2. Tests for visual defects, such as imperfect vision, squint, failure of fusion, lack of parallelism of the eyes, etc.
3. Mental testing.
4. Educational achievement tests.
5. Observation of the child in a group.
6. Play technics.
7. Rorschach test.

This chapter is devoted to a brief description of some of these procedures which are not discussed elsewhere.

HEARING

Tests for hearing are often indicated where there is difficulty in the language functions (speaking, reading, writing) or in school achievement. A child may be considered mentally retarded when impaired hearing prevents a normal reaction to the environment. Defective hearing can be best measured with the audiometer. This will also differentiate such conditions as "congenital word deafness" where general hearing is unimpaired but understanding of the spoken word is defec-

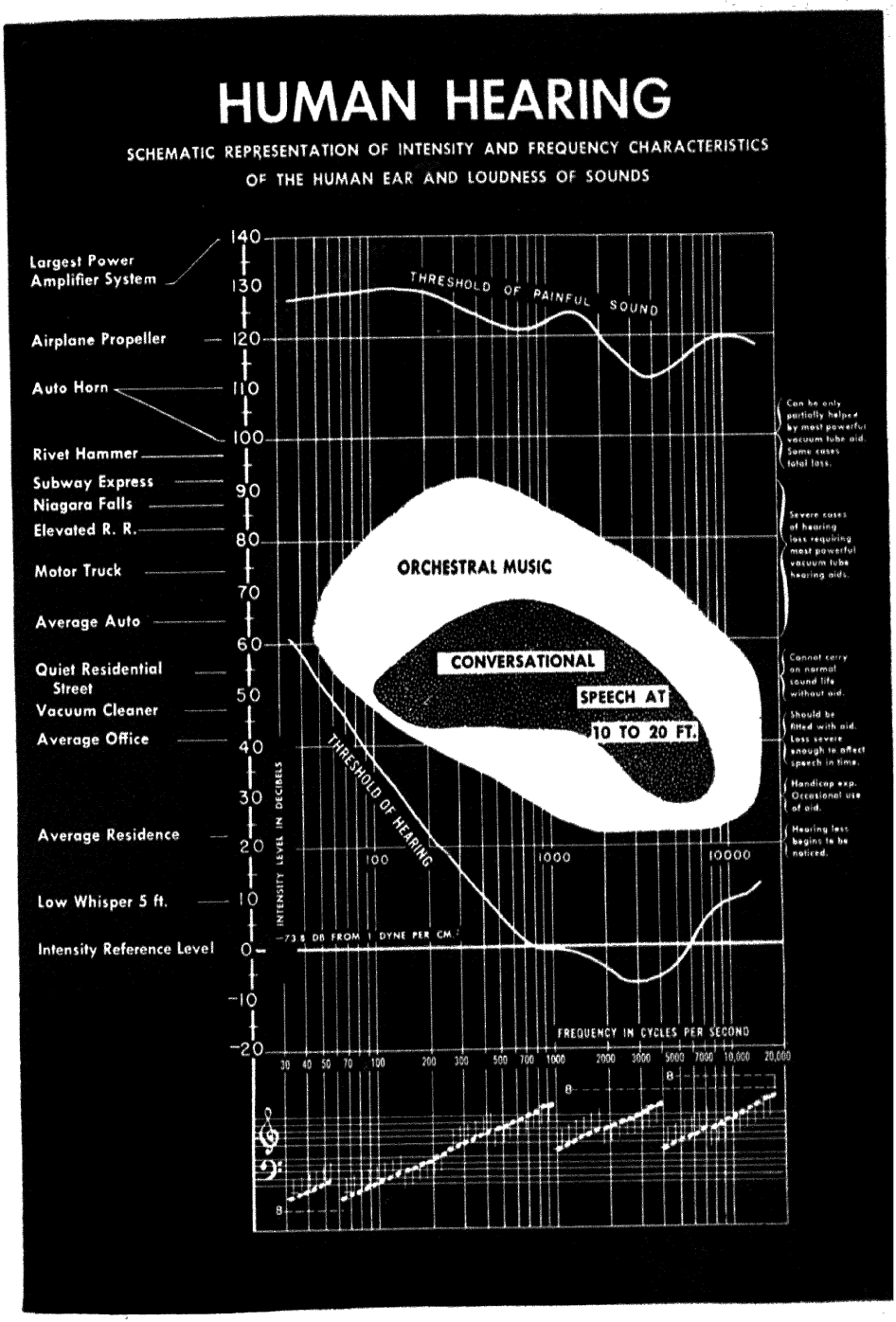

FIG. 2.—HUMAN HEARING. MUSIC AND SPEECH INTENSITIES.
(Courtesy of Radio Today).

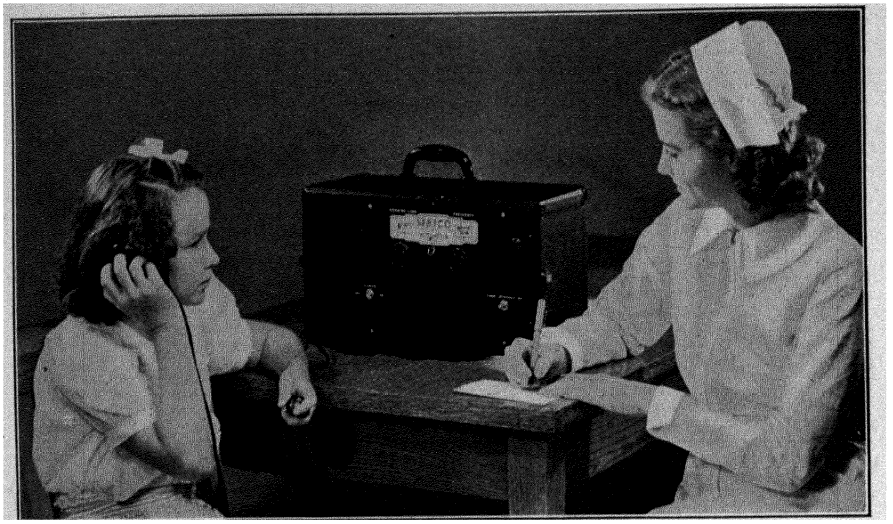

FIG. 3.—TESTING THE HEARING OF ONE CHILD BY MEANS OF THE AUDIOMETER.
(Courtesy of The Maico Company).

tive; and regional deafness, where hearing is lost only for certain ranges of pitch.

The *audiometer* is designed to measure hearing acuity for sounds of varying pitch and intensity. The apparatus is set at a definite pitch, usually in the most readily audible range (*e.g.*, 1,024 cycles) and at an intensity which is loud enough to be easily heard. The sound is then faded out rapidly until the patient

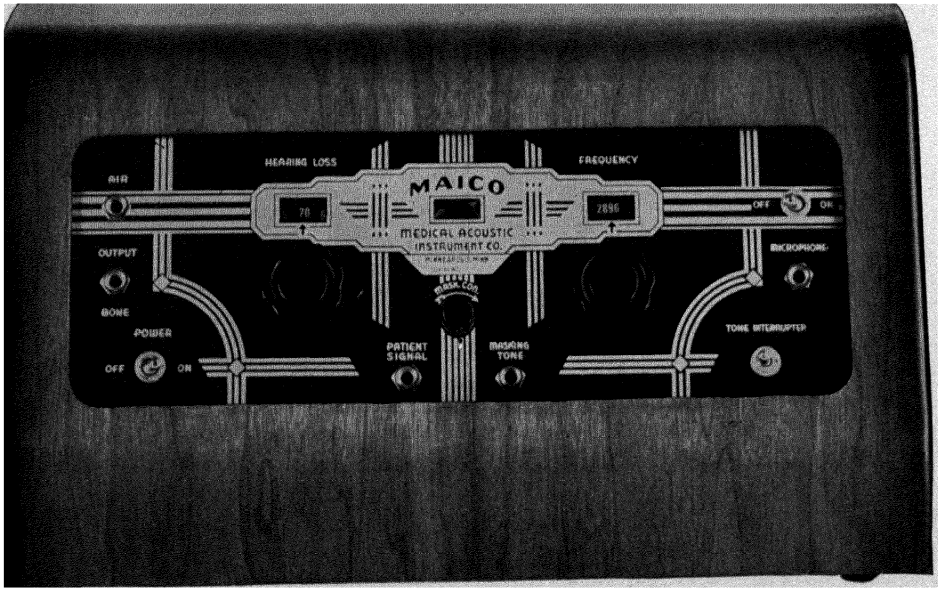

FIG. 4.—THE AUDIOMETER.

This instrument for the measurement of hearing loss may be used for individual or group testing (Courtesy of The Maico Company).

signals that he has lost it. The test is then reversed, starting with low intensity and increasing until the patient detects resumption of the sound. The threshold of audibility for the subject is the lowest point at which he can correctly detect when the sound comes on after it has been cut off. The test is repeated at various pitch levels.

In making audiometer tests the patient should be comfortably seated with the arm which supports the receiver resting on a table. The phone should be held firmly against the ear, but excessive pressure or slackness should be avoided. The room should be quiet but sound proofing is not necessary.

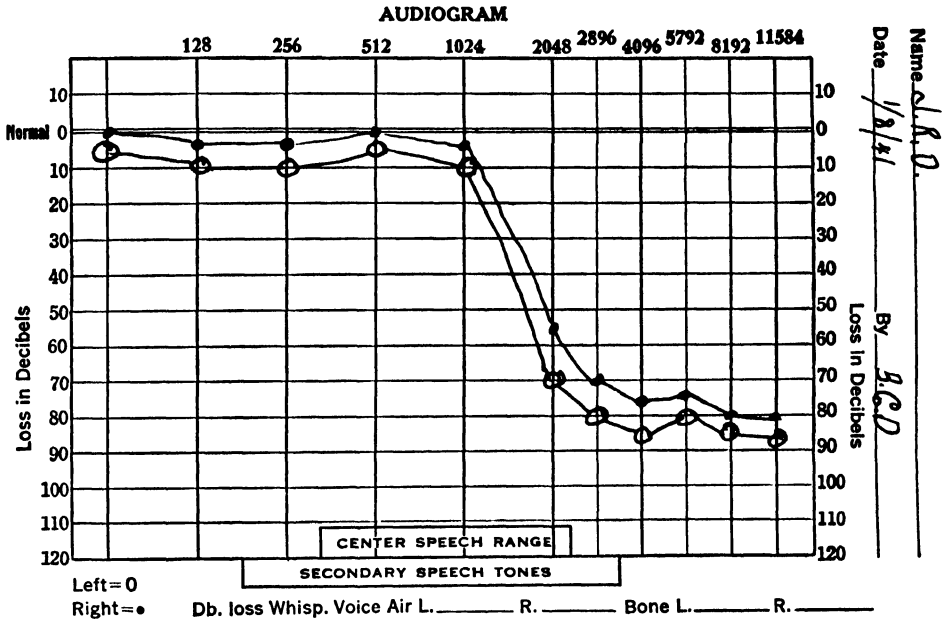

FIG. 5.—AUDIOGRAM OF A CHILD THOUGHT TO BE MENTALLY RETARDED BUT ACTUALLY PARTIALLY DEAF.

The child could hear all lower vowels and middle speech sounds easily, but completely missed the higher consonant elements (Courtesy of The Maico Company).

The audible pitch range of human hearing extends from about 16 cycles or double vibrations per second up to 16,000. There are few sounds to which one is exposed in daily life which are above 8,000 cycles and none above 10,000. The pitch of human speech is almost entirely between 256 and 2,000 cycles.

Hearing acuity declines with increasing age. This affects the upper range although exceptions where the aged retain keen sense for the very high pitches are frequent.

The sensitivity of the human ear depends on the intensity as well as the pitch of sound. Hearing is generally more acute in the middle pitch range around 1,000 cycles than at either end. The unit of intensity or loudness is the decibel. Theoretically it is the smallest change in intensity which the human ear can detect. The intensity range for the human ear, that is the range between the point where sounds become just audible (the threshold of audibility) and the point

where the sound is so intense as to be painful (the threshold of feeling) is about 130 decibels. This is true only at the most sensitive middle range of human hearing. As the pitch is changed downward or upward from this optimal zone the range of intensity perception diminishes.

VISION

Defects of vision are not infrequent in small children but often remain unrecognized until the child starts to read. Special cards with pictures instead of letters have been designed for testing visual acuity in children under school age. Snellen "E" test cards may also be used.

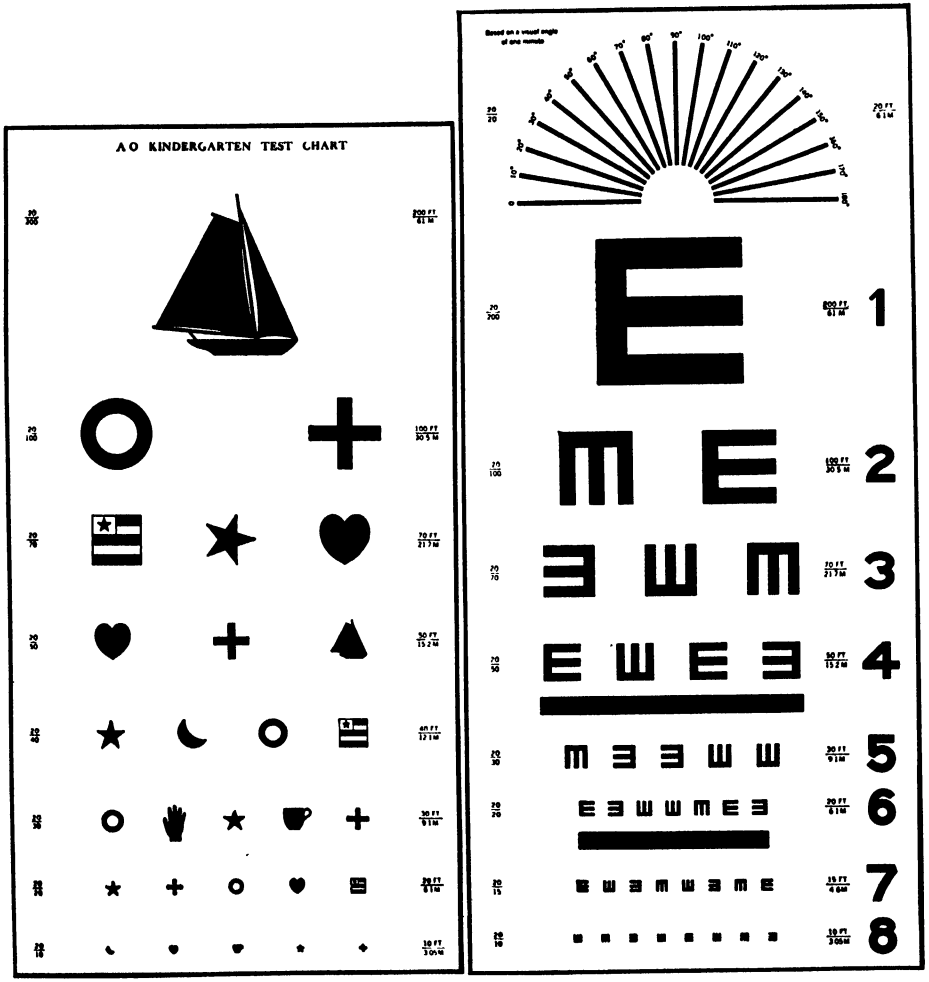

FIG. 6.—CARDS FOR TESTING VISUAL ACUITY IN PRESCHOOL CHILDREN.

A, picture chart; *B*, Snellen "E" test card (By permission of the American Optical Company).

Squint or *strabismus* is tested for most simply by flashing a light into the child's eyes at a distance of 15 or 20 inches (37.5 or 50.0 cm.). If the eyes are fixed on the light and are straight the corneal reflexes will be in the center of the pupils. Another method is to have the child fix on an object in the distance. The eyes are covered alternately. If the eyes are straight there will be no movement as first one and then the other eye is uncovered. This test should be repeated at 13 inches (32.5 cm.) as the eyes may be straight for distant but crossed for near vision.

Reading difficulties are frequently dependent upon defects of vision or of fusion and a study of the eyes should be included in the examination of children who are retarded in reading. With *lack of visual acuity* there may be blurring of the retinal image and confusion of similar patterns such as "oat," "cat," "eat." The visual examination therefore should test the ability to discriminate forms and letters.

The child must not only have adequate vision in each eye but the retinal images of both eyes must fuse so that the child will not be confused by overlapping of images. Stereoscopic machines are available for testing *fusion*.

Recently a modified moving picture camera, the ophthalmograph, has been developed for photographing the eye movements during reading. With this apparatus it is possible to determine the speed of reading and the manner in which the two eyes coordinate during reading. Furthermore the frequency of eye fixations or pauses as well as the regressions or backward movements of the eyes can be measured. This is discussed in more detail in Chapter XVI.

Color blindness may be tested by having the child sort out yarns of various shades. Recently cards have been made available which have one area in the shape of a letter, on a differently colored background, usually using the complementary color. The person being tested is asked to name the letter on the card. As the texture is the same throughout and as there is no outline this is impossible if color discrimination is impaired. Cards are also available showing numbers which are visible only to the color-blind individual.

INTERVIEW WITH CHILD

Allowing the child to talk freely with a sympathetic, unprejudiced impersonal listener may be a useful aid in diagnosis. Having him recount his dreams may serve as a starting point for an understanding of his emotional problems. This permits him to express his desires and subconscious needs without conscious censorship. Sometimes these may be interpreted for him with benefit.

GROUP OBSERVATION

Valuable information may often be obtained from an account, by a trained observer, of the child's behavior in a group at a nursery school, club or camp. The child's reactions to the other children, his desire to lead or willingness to follow, his ability to mix with the group, the number of quarrels, the child's use of language are of great help in assessing the type of child with which one has to deal.

The group is an important part of the adolescent's life and considerable insight into his behavior can be obtained by observing him with his friends. In fact much of the behavior and ideation of the adolescent is dependent upon what the other members of the group or gang do and think.

The *one-way screen* may be used for observing the behavior of the child without the disturbing presence of an adult. The observer remains invisible behind the screen but he can clearly see the child and hear what he says. The device has clinical value as the child, believing himself unobserved, acts in a natural and unconstrained manner. Many mothers have profited greatly by watching their children through the screen. This produces a psychologic detachment and gives the mothers a new perspective. In some instances, after observing the child in this way, the mother can interpret parts of his behavior for the physician.

In its simplest form the one-way screen is made of 16 mesh wire. This is set in a doorway or wall and looks like an opaque window. The observer sits behind the screen in a darkened part of the room or in another room. The side of the screen facing the child is painted white to give a dazzling effect and may have on it a design to divert attention from the screen itself. The room occupied by the child must be well lighted. As the screen transmits sounds, the observer must remain quiet.

PLAY TECHNICS

Play technics have been used by some observers as a means of gaining insight into the emotional problems of the child and as a form of treatment. A common method is the use of *dolls and clay*. The dolls can be disjointed and various organs can be made of the clay to add to the dolls. The dolls are of different sizes and in many instances the child understands them to represent his family, most often mother, baby and himself. His play and conversation are noted by the observer who sometimes enters the conversation to ask questions as to why certain play is engaged in. Likes, dislikes, jealousies, fears, destructive and aggressive tendencies are shown in the child's behavior.

A variation of this technic is the *puppet show,* which may be played before a group of children. Usually there are several characters one of whom is aggressive and destructive. This method, developed by Bender and Woltmann, includes a boy puppet, Caspar, who is active, curious, comic, sociable, uninhibited and aggressive. The child identifies each puppet with some member of his family or with his playmates and, in most instances, identifies himself with the aggressive puppet who is everything the child would like to be himself. The puppet show is usually very much enjoyed by the children who laugh and take an active part in the performance by making suggestions. After the play is finished the children are allowed free discussion and problems are brought out by response to questionnaires. The value is not only in the understanding of the emotional problems of the child but in the free expression of the child's aggressive tendencies.

Recently *molding of plastic material* such as clay or plasticine has been used by Krautner, Bender and others as another means of free expression of the child's emotional life. A group of children are allowed to play freely with

plasticine talking as they play. The play and conversation are observed by a trained worker. When the child has matured enough to create objects from the clay, the objects are believed to express his fantasy life. A suitable outlet is thus given for aggressive, counter-aggressive, destructive and constructive tendencies. Through this medium the child is able to get a clearer idea of his problems in relation to his body, his family and playmates, and to bring this to the conscious level.

A study of children's *drawings and paintings* has been suggested as a diagnostic procedure. Drawings made by psychopathic individuals are said to differ from those made by normal individuals in many important respects and to show characteristic patterns for various types of mental disease. It has been found that drawings made and interpreted by children help considerably in the diagnosis of personality disorders and emotional maladjustments and may be of value in the treatment of the child.

FIG. 7.—THE RORSCHACH TEST.

Ten symmetrical, variously colored and differently shaped ink-blots, two of which are shown in the figure, are presented to the patient, one at a time, for description and comment (From *Rorschach-Ink-Blot Tests*. By permission of Buchhandlung und Verlag, HANS HUBER, BERN, SWITZERLAND.

RORSCHACH TEST

The **Rorschach test** has been used as an aid in the diagnosis of emotional maladjustment. It consists of ten symmetrical, variously colored and differently shaped ink-blots which are presented to the individual for description and comment. The descriptions most frequently given have been tabulated and interpreted for comparison with individual answers. Rorschach claimed that this test was an accurate gauge of intelligence, that it was an index of emotional stability and instability and that it gave some insight into the unconscious mechanisms in personality.

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CHAPTER VI

TREATMENT

Correction of Physical Defects. General Principles. Correction of Parental Attitudes. Training. Drugs. Rewards. Suggestion. Play Technics. Nursery School. Club. Camp. Foster Home. Institutional Care.

The aim of treatment is the removal of symptoms for which advice is sought and the correction of the underlying disturbing mechanisms. One should be careful, in the treatment of psychologic disturbances as with physical ailments, that the therapeutic measures which are introduced will not do more harm than the offending symptoms. Thus, the attempts at correcting thumb-sucking, bothersome though this symptom may be to the parents, may do more harm than good and the greatest benefit can often be attained by discontinuing all attempts at correction. In such instances it is not sufficient to tell parents that the child will grow out of the habit. An explanation of the harmlessness of this behavior and its eventual disappearance under proper guidance is necessary. It is important to relieve the parents' concern so that they may more easily understand and accept the situation.

Before undertaking the treatment of a child with a psychologic difficulty, the daily routine should be carefully regulated with regard to diet, work, rest and play. Children prefer an orderly routine and find security in consistent handling.

PHYSICAL DEFECTS

Physical defects should be evaluated and corrected whenever possible. It is common knowledge that ailments such as acute infections, tuberculosis, chronic gastro-intestinal disturbances, etc., often lead to irritability, restlessness, fatigability and general unhappiness. It is important to keep in mind that even minor physical defects may lower the threshold to irritating stimuli and hence a careful physical examination is an essential first step in the treatment of psychologic disorders. Furthermore, the presence of a defect such as lameness or squint, or merely left-handedness or unusual stature, may affect the child's relations with his playmates and lead to personality difficulties.

GENERAL PRINCIPLES

The therapeutic approach to psychologic problems is governed by the same principles which underlie the care of physical ailments. Treatment may be directed primarily toward correction of the etiologic situation, it may be symp-

tomatic, or it may be general and designed to build an optimal psychologic environment.

There is a close analogy between the management of psychologic disorders and dietary deficiencies. Children suffering from specific dietary deficiencies such as rickets, scurvy, anemia, are seen frequently enough, but much more common are the children whose general nutrition is below par. Just as it is customary to treat this latter group by the administration of an optimal diet, just so, in the case of the misbehaving, unhappy child, the therapeutic indication is for an optimal psychologic environment. This means providing the child with ample outlets for his emerging capabilities for work and play; it means giving him ample security and affection and guidance; and it means encouraging him to relinquish outgrown modes of behavior. When specific defects in the upbringing can be determined these should, of course, receive more intensive consideration.

It may be felt that the supplying of an optimal psychologic environment is a much more difficult task than the prescription of a good general diet. However, physicians engaged in the practice of pediatrics fifteen or twenty years ago will recall the resistance of parents toward diets which are now accepted readily.

In the treatment of specific complaints distinction should be made between difficulties which arise out of more or less deep seated defects in the environment and which require intensive work, and difficulties due to improper handling of a specific situation. In many children with so-called anorexia the difficulty is dependent solely on falsely rigid notions as to the dietary needs of the child with consequent mismanagement of the eating situation. In such instances relieving parental anxiety and allowing the child a choice of foods is often curative.

CORRECTION OF PARENTAL ATTITUDES

When the child's difficulty is dependent upon improper management in the home, an analysis of the situation should be made. In giving advice, errors in child-rearing should not be stressed unduly since erring parents are readily antagonized. Emphasis should be laid, rather, on constructive suggestions which will aid in correcting the unfavorable situation. For example, the parent who obviously favors the younger of two children need not be reminded of his bias; he should, instead, be shown that the older child, being more mature, has broader interests than his younger sibling and needs more of his parent's time and understanding. In order to effect a change in parental behavior concrete suggestions should be made. A schedule may be prepared of the time the parent should spend with each child and a toy list or book list proposed. It may be pointed out that there will be greater companionship and intimacy if the older child takes his meals with the parents. A few words by the physician about the child's attractiveness or some special ability or skill will often lead the parent to a greater appreciation of the child.

Concrete advice and instruction are very helpful. Thus advice to the parent to be firm about the child's behavior in important instances but to allow greater freedom in unimportant matters will help the parent a great deal more than merely telling him not to nag the child.

A useful therapeutic approach is to explain to the parent that the child's behavior is that which is to be expected at a particular age. As the child develops he normally passes through periods when such responses as negativism, aggressiveness, curiosity and jealousy are prominent. If the parent understands that the behavior to which he objects is part of normal developmental patterning he will be more willing to accept the situation in his own child and drop his feeling of futility or antagonism.

In many instances it is wise to interview the parent and child separately at first; later something may be learned of their relationship to each other by talking with them together. The child should be kept occupied while the parent is interviewed as he will otherwise become impatient and curious and resentful of being excluded.

Where the child is brought because something in his behavior disturbs the parent, further investigation will often show that the declared complaint is only a part of the difficulty and that the parent is actually more worried about other problems. Each complaint should be taken seriously and the parent should not be made to feel that he is worrying over trifles or that he is overanxious. It is useless to advise him to stop worrying until the cause of the anxiety has been found and eliminated. The problem should be dealt with, whether the difficulty is centered in the child or in the parent.

When the child's problem is based on unsatisfactory home environment both parents should be interviewed. It is sometimes advisable to interview the siblings, grandparents, nurse or other members of the household.

The majority of psychologic problems which present themselves in the everyday practice of the pediatrician are dependent on parental ignorance of proper methods of child-rearing. Not infrequently, however, the child's misbehavior depends on disturbances in the emotional lives of the parents or on the interparental relations. In such instances it may be necessary to refer the parents to their physician.

A friendly contact should be established with the child and, for this, time and patience are necessary. For the small child toys, crayons and color books may help. When the child is of school age it is often wise to talk with him without the parent and to allow him to give his side of the problem. One must be careful to appear impartial and to accept what the child says in a matter of fact way. Allowing an insecure child the opportunity to tell his difficulties to an unemotional, uncritical adult will sometimes give him the feeling of security which is so essential to his treatment. Occasionally the symptoms will entirely disappear when he has been allowed to express himself freely, without fear of misunderstanding or criticism. Bringing suppressed wishes and feelings of guilt into the open will help the child to realize that he has exaggerated their importance. In addition much may be learned from hearing the child's story told in his own way, especially as to the effect on him of his parents' or teachers' attitudes and as to his reasons for certain behavior. Direct questioning will rarely elicit truthful answers both because much of the source of abnormal conduct is unconscious and because the child is bound by loyalties and conventions from exhibiting too critical an attitude toward the adults in his environment.

Adolescents frequently may be helped to face their difficulties openly if the physician will discuss impersonally ideas, plans and fears which affect most children at this age. If the high school child can be made to realize that many of his friends are suffering from symptoms similar to his own, his troubles will appear less important and a solution may be more easily found. In some instances, with intelligent older children, much is gained if the physician will state the case exactly to the child, explain why he has come, what is to be expected and how he will be helped by treatment.

TRAINING

Training is essential in the treatment of undesirable habits. It should always be undertaken in a calm, quiet manner without coercion or anxiety. Specific instructions should be given. In some instances a chart, showing the child's improvement day by day, is useful. Encouragement helps the child greatly. In disorders of the language functions, speaking, reading, writing and spelling, instruction by a trained teacher is necessary.

DRUGS

Drugs are useful aids in the treatment of psychologic disturbances but are not to be relied upon as the sole therapeutic approach since they fail to attack underlying mechanisms. Bromides and phenobarbital are highly effective in sleep disturbances particularly night terrors and nightmares. They should be combined with instructions to the parent regarding a proper sleeping routine and avoidance of bedtime rituals, as well as an analysis of the sleeping situation. Atropine is often helpful in the treatment of older children with vomiting. Bromides and phenobarbital are of value in preventing car- and seasickness. Atropine is useful in children with enuresis of the pollakiuric type (see page 258).

Benzedrine often has a beneficial effect on children with behavior disorders. Though it in no sense replaces therapy directed toward removing the source of conflict in the child's environment, it frequently has a sobering influence and alters the reaction toward irritating situations. The dosage varies considerably from 10 to 40 mg. daily and no relation between the amount necessary and the age of the child or the severity of the behavior disorder has been found. Hyperactive, overstimulated, aggressive children become subdued, quieter and more controlled emotionally, while the children who are self-absorbed, quiet and schizoid become more alert, more aggressive and more contented. Many children show improvement in school work, in some instances not associated with improved behavior. Not all children are benefited and it is not possible to predict which type of behavior disorder will respond.

REWARDS

Rewards, if properly used, are valuable aids in child-rearing. Though the aim in training is to teach the child to work for the pleasure of accomplishment

and for the satisfaction which comes from right conduct, nevertheless the parental approval implied in the well-earned reward remains a strong stimulus for achievement throughout childhood. Furthermore young children are often too immature to appreciate the satisfaction of parental approval for good behavior, therefore a reward may be used as concrete evidence of this approval. Rewards should be used sparingly and only for unusually good behavior. If used too freely they quickly become ineffective and the parents are forced to think of more attractive prizes. The child should not be compensated for simply doing routine tasks but rather for performing some task which is not generally expected of him, or for exceptionally good achievement. The kind of reward will depend on the age of the child and the nature of the task performed. It may be a word of praise, a small gift, a gold star, an outing. The reward may be used to condition the child favorably to a desirable activity.

Bribing, which means giving the child a gift to prevent misbehavior, is of no value and should not be used. The child quickly learns that he need only misbehave in order to be bribed to be good again.

SUGGESTION

Suggestion is useful as a temporary measure to inhibit harmful reactions or to encourage desirable behavior during the period when more fundamental treatment is being carried out. It serves to bolster the child's self-confidence and in this way aids him in overcoming undesirable modes of behavior. Sometimes a remark made at a receptive moment will cause a pronounced change in the child's attitude. Suggestion is rarely adequate as the sole therapeutic approach since it fails to attack the mechanism on which the difficulty in question is based. A form of suggestion, now seldom used, and then frequently without success, is hypnotism.

Suggestion is an effective method for treating warts (verruca vulgaris and verruca plana seu juvenilis). Three to four weeks are ordinarily required for cure. The methods employed are painting the warts with a colored substance, such as methylene blue or gentian violet, rubbing the warts with the ashes of a burnt newspaper, etc. The mechanism of cure is difficult to understand, especially since the common wart is looked upon as a manifestation of a virus infection.

An elaborate but apparently effective method for treating warts is that proposed by Tom Sawyer. Tom is explaining to Huckleberry Finn: "Aha! Talk about trying to cure warts with spunk-water such a blame-fool way as that! Why that ain't a-going to do any good. You got to go all by yourself, to the middle of the woods, where you know there's a spunk-water stump, and just as it's midnight you back up against the stump and jam your hand in and say:

'Barley-corn, Barley-corn, injun-meal shorts,
Spunk-water, spunk-water, swaller these warts,'

and then walk away quick, eleven steps, with your eyes shut, and then turn around three times and walk home without speaking to anybody. Because if you speak the charm's busted."

PLAY TECHNICS

Play technics.—Various forms of play technics are used in the treatment of emotional disorders in children. These have been discussed in some detail in Chapter V. The success of the treatment depends, in general, upon bringing the underlying difficulties to the child's consciousness, explaining their source and meaning and in allowing free expression of anti-social emotional tendencies, especially dislikes, jealousies, fears and destructive and aggressive tendencies.

Play technics are of greatest value for children with difficulties which are not affected seriously by problems in the family relationship. Children with a definite symptom picture which has been precipitated by a specific event such as a frightening experience, the birth of a sibling, discharge of a nurse, divorce of the parents, are well suited to this type of treatment. It has been used with success in children with fears, night terrors, tics, temper tantrums, excessive negativism and other conditions. The method is of little value before 4 years of age. It is important that the child is suffering from something that has happened in the past and not from a difficult situation which is going on at the time of treatment.

Play technics have been used during the preadolescent and adolescent years with excellent results. The children are given miniature toys representing people and other objects and are asked to set a scene for a motion picture. They reveal their major anxieties and gain relief by dramatizing their own troubles. Similar results may be obtained through drawing and painting.

NURSERY SCHOOLS

Nursery schools for small children where there is supervised play, contact with other children of similar age and opportunity to eat with other children, help to correct defects resulting from overprotection such as fearfulness, shyness and poor eating and sleeping habits. The indications for placing a child in a nursery and the choice of a nursery are discussed more fully in Chapter XXII.

CLUBS

Clubs have a wide usefulness in the treatment of psychologic disturbances. Scout groups, clubs and church societies benefit the child by providing an incentive toward more social behavior and by supplying a proper outlet for his energies, ambitions and skills. When a child is referred to a club or other recreation group, the program of activities should be considered in relation to the needs of the particular child. There should be facilities which interest him such as games, shop work or music since benefit can be expected only if the child can find an interest there.

Such factors as age, religion, economic status, location of the club, club hours, etc., should be satisfactory.

Clubs are indicated in the treatment of older children where the home is unsatisfactory or where the playmates are undesirable. For the overprotected child, accustomed to adult society, the club has particular value. There, under

adult supervision, he can make an easier and more gradual adjustment to other children than he would be able to make alone. He is encouraged to join in group activities and his skills are emphasized so that he feels less embarrassed and shy and gains greater assurance. In addition the spoiled child or the bully is not tolerated by the club masters or by his playmates and he soon learns the necessity to adjust his behavior to that of the group.

Where a child has special ability or interest in some field the club master may arrange an opportunity for special study. This usually affords great pleasure and gives a feeling of success and worthiness thereby helping to overcome feelings of inferiority. Hobbies act in a similar way. In rare instances, teachers, group leaders or older friends can substitute as parents for children from emotionally unsatisfactory homes.

THE SUMMER CAMP

The summer camp has become very popular during recent years. It provides the city dwelling child with an outlet for pent-up physical energy. Children from homes with few advantages and from neighborhoods which are rough and where most companions are undesirable are greatly benefited. Camp is indicated where the home environment is unsatisfactory and where psychologic difficulties arise as a result of parent-child conflict. It is very valuable for the overprotected child.

The camp should be chosen with care and should be matched to the individual child with especial reference to age, interests and cultural status. Where a problem exists the counsellors should be informed about it and they should be told something concerning the personality of the child and his home environment. Reports of conduct, sociability, interest, independence and reliability should be given at intervals to physician or parents so that the best possible use may be made of the months in camp. In some instances conferences will be of value.

Before the child is sent away he should understand something of the routine, duties and facilities at the particular camp he is to attend so that he may not expect too much and consequently be disappointed.

Much of the value of the camp lies in the child's temporary removal from the family to a new environment where there is a less personal approach and where he will have a complete life experience without conflict between home, school, siblings and the "gang." A counsellor's sympathetic but impersonal interest will help the child to face his problems in a more reasonable way. Because of the planned program of the camp there is little opportunity to become bored and unhappy or to get into difficulty. Interest in camp activities is stimulated by the other children's participation and in this way sociability, tolerance and good sportsmanship will develop. Excellence in athletics, skills or special interests bolsters the child's ego.

Camp is of particular value for boys and girls in the preadolescent years 10 to 14 when they are growing rapidly and need plenty of physical activity. At this period the group plays an important part in the child's life and in many instances camp can provide companions and group activities on a higher level

than are available at home. After 14 or 15 years the child may be bored by the simple camp routine and camps are to be recommended which have special facilities such as music camps, ranches, travel camps, etc.

Except in special instances camps are not to be advised for children under 6 or 7 years. The supervision of physical care is not always adequate for small children. Camp life is apt to be overstimulating and the difficulty in adjusting to a large group with little personal supervision is too great an effort in many instances. There are, nevertheless, some camps where the small child will do very well.

THE FOSTER HOME

The foster home has been found useful in the treatment of personality problems and early antisocial behavior which results from maladjustments within the home. Children may have to be boarded out because of economic inadequacy or illness or death of a parent. The foster home is best suited to the treatment of children below 10 years. Childen with psychologic disturbances associated with structural disease of the brain and confirmed delinquents generally do poorly in foster homes.

Although in the end a foster home may be the treatment of choice for a particular child, he will usually be intensely unhappy at first. The circumstances which precede placement have generally been unpleasant and the child arrives in a highly disturbed state. He is apt to be ashamed and to feel that his parents are unworthy and that he, too, is therefore unworthy. The standards in the foster home are apt to be different from those in his own home and, as the child is incapable of evaluating differences, he is annoyed by them. Furthermore most children are resentful at having been taken from their parents and placed elsewhere and they refuse to cooperate or to accept the new situation.

Before a child is placed in a foster home he should receive a clear explanation of the reason. He should be assured that he is wanted and needed in his new home and that he will be loved and helped. His parents should be represented to him in the best possible light so that he will not be ashamed of them. The foster home should be reasonably similar to his own home and due consideration should therefore be given to the economic and social status of the foster parents, their religion, national grouping, dietary customs, etc. It is usually preferable to place an only child in a home where there are no other children.

The emotional disturbances accompanying the transfer to a foster home can be eased considerably by placing the child in a carefully chosen institution for several weeks under the guidance of trained personnel. Here he can be gradually weaned from the home environment and helped to adjust to a change in his situation. The impersonality of the institute offers an opportunity to merge his identity with that of the group of children and helps him to forget his own difficulties.

INSTITUTIONAL CARE

Institutional care is of value in the care of mental defectives, in children with psychologic disturbances due to disease of the nervous system and in chil-

dren showing chronic antisocial behavior. It has also been found useful in the management of spoiled or overindulged children, who have grown into early adolescence, with no training in adjusting to the demands of others. It may be of benefit when the emotional bond between parent and child is very strong. A case illustrating the value in a situation of this sort is described by Rogers:

A 10-year-old boy was poorly adjusted to the school group, stole and lied. The mother, herself neurotic and unstable, realized the unsuitability of the home where she quarreled continuously with a brutal, drinking husband and desired to have the boy placed in a foster home. Several different homes were tried but all proved unsatisfactory. In some instances the mother removed the child from the foster home because she feared that he was becoming indifferent to her and was bestowing his affection on the foster parents. Placing the child in an institution, where he lived in a wholesome environment and at the same time continued to feel permanently attached to his mother through her visits, proved to be a satisfactory solution.

Institutional care seems better suited to the treatment of delinquency in girls than in boys, possibly because of the greater docility and readier acceptance of institutional routine by girls. Girls profit more than boys and fewer are arrested for further delinquencies after leaving the institution.

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CHAPTER VII

THE EMOTIONS

Self-Dependence. Aggression. Negativism. Anger. Cruelty. Insecurity. Sex and Love. Modesty.

The infant at birth is equipped with a fairly elaborate set of emotional responses which may be divided into pleasant and unpleasant. The newborn responds with pleasure to sucking, warmth, being patted, rocked and held snugly. Skin to skin contact, such as the infant experiences during breast feeding, is said to be pleasurable, also. He shows displeasure in response to abrupt change in position, loud noises and hampering of movement in an uncomfortable position. The newborn expresses his displeasure by crying, by general muscle tension and by sucking on the fists or fingers; he expresses pleasure by a general muscular relaxation and by stretching movements.

Knowledge of the primary emotional responses is very helpful to those who have to do with the management of the infant. Though the stimuli which elicit pleasure in the baby seem to be applied instinctively it is advisable to remind parents about them, since they might otherwise consider them undesirable.

SELF-DEPENDENCE

The infant passes quickly through the stage of almost complete dependence and at 3 to 4 months he is already interesting himself in his environment, vocalizing, looking about, studying his extremities, developing his motor skills, smiling as well as crying. As he approaches the end of his first year he enters a critical phase in his development. Unfortunately this is the age at which visits to the pediatrician ordinarily diminish in frequency. The child is on a practically complete diet, he has received his prophylactic inoculations, and it will be some years before the contagious diseases will make their appearance.

The developmental phase to which we refer is that in which self-dependence appears. It is the period in which the child, literally and figuratively, tries to stand on his own feet. The child, formerly content to have his bottle held for him, now starts to make efforts to support it himself. He lifts himself up, moves about in his crib or play pen and starts to explore his environment. He begins to indicate a desire for elimination and tries to assist at dressing and undressing. As he learns to walk he continues his explorations and very soon tries to control as well as investigate his environment.

An atmosphere of affectionate encouragement is essential for the proper handling of this developmental phase. Spontaneous efforts of the child toward eating utensils, bowel and bladder control, etc., should be watched for and made use of in training by the parents, but attempts to initiate such efforts are ordi-

narily not necessary and should not be undertaken without due consideration of the child's earlier training. The pleasure which the child derives from achievement should be utilized by the parent to instil habits of cleanliness, neatness and helpfulness. Children who fail to receive the affection and encouragement which they need during this period experience a sense of defeat and ordinarily respond with passive behavior and submission.

The most common parental error during the phase of emerging self-dependence is overprotection. It is apparent that where the parent insists on feeding the child, on dressing and undressing him, protecting him lest he fall and hurt himself, there will be a delay in the acquisition of behavior for which the child is developmentally ready. The overprotective attitude does not usually extend to micturition and defecation; indeed training in these functions is often prematurely attempted. The overprotected child ordinarily accepts the parental attitude and responds with immature behavior.

Parental overauthority interferes with the development of self-dependence by attempting to impose a plan of action which may be in opposition to that of the child. An overcritical or an overcorrective attitude or too many prohibitions are also harmful. Excessive parental demands may stimulate the child's negativism and make him resistant to learning procedures. They may lead to an atmosphere of strain and give rise to feelings of inadequacy, defeat and anxiety in the child. Parents must be taught to temper their eagerness and await patiently the acquisition of various skills by the child.

Excessive parental applause is also to be discouraged since it may instil in the child a sense of importance regarding his activities which they do not deserve. At a later period, *i.e.*, during the third year of life, when various skills become well established and habitual, the child must learn to rely less on parental applause and more on his own inner satisfaction in achievement.

As the child grows from infancy to maturity there is a continuous increase in the desire and ability to become self-dependent. There are, however, two periods during which self-dependence makes striking gains, the period roughly between the second and the fourth year of life and the adolescent period. During the early years the child assumes responsibility for the essential bodily functions such as control of bladder and bowel function, eating, washing, and dressing; but he is content to remain, to a large extent, under parental control and to follow uncritically the plans laid down for him by his parents. During adolescence he seeks rather freedom in thought and ideas and finally emancipates himself from the home.

The normal individual never attains complete independence but continues to seek help and sympathy, in times of stress, first from his parents, later from his marital partner and his friends and finally from his children. The further discussion of self-dependence will be found in Chapter XXIII.

AGGRESSION

Aggressive behavior is an expression of the child's desire to carry out his own plan of action. Though already evident early in infancy, aggressiveness becomes

prominent in the transition period between the more or less passive dependence of infancy and the relative independence of childhood. If not excessive it is a desirable form of behavior and, when properly directed, it becomes an asset to the individual and a constructive force in society.

Excessive aggression is most frequently seen as a response to parental overindulgence, to overprotection, particularly when it is associated with rejection, and to overauthority. It is seen where there is parental incompatibility, especially where the son, siding with the mother, is antagonistic toward the father.

The aggressive child attempts to dominate every situation and may resort to screaming and temper tantrums to attain his objective. Frequently the parent finds it easier to comply with the child's demands than to have a scene. If the child succeeds, the same technic will be repeated.

Some children are unduly aggressive at home but shy and reticent with strangers. These are usually overindulged children who know that they can have their way with their parents but who have not been given enough responsibility to know how to conduct themselves in a strange environment.

Correction of the unfavorable home environment is essential as the first step in treatment. The child should be shown the undesirability of asocial behavior and the advantages of social behavior. Giving more responsibility and helping the child to grow up are valuable aids in treatment. Where aggressiveness is accompanied by brutality, an outlet may be provided in play activities such as hammering, cutting, pounding, etc.

NEGATIVISM

Negativism is an expression of the child's resistance to attempts by others to impose a plan of action upon him. It is most highly developed toward the end of the second year and normally decreases in intensity during the fourth year of life. If it persists undiminished after this age the psychologic environment should be investigated. Excessive negativism is most frequently seen where the parents are overauthoritative, overcritical or overcorrective. It is also seen in the overprotected child as a revolt against an environment which does not offer sufficient resistance to the child's emerging aggressive traits.

Negativism in its earliest form manifests itself as a physical tenseness or withdrawal in response to any sort of approach. Later, as the child learns to speak, he takes every opportunity to refuse what is requested and in many instances refuses when he really would prefer to comply. Defensive lying is common in negativistic children. In later childhood the child no longer troubles to refuse but assumes a blasé attitude which remains unaffected by reason or persuasion. An approach not uncommonly used by the parents who find that the child responds negativistically is to ask the opposite of what they desire as, for example, "don't wash yourself before lunch" or "don't eat your vegetable." This method is to be condemned since it merely confuses the child who fails to comprehend the parental subtleties.

Dawdling is a form of negativistic behavior and is most commonly seen in the children of overauthoritative parents. Fearing to resist openly, the dawdling

child complies with parental requests slowly and unwillingly. Such children are slow at eating, dressing, washing, etc.

The negativistic child is best treated in a group, for example, at a nursery school or kindergarten. The teacher should be instructed to try never to speak to the child directly. The child is invited to participate in the activities of the school by such expressions as "Let's sing" or "Let's march," the appeal always being made to the group. Furthermore the teacher should avoid any situation in which she or the child has to "give in" or lose. She should also refrain from physical contact with the child except as the latter himself makes advances.

The same principles are applied in the home care of the negativistic child although this is naturally more difficult.

The attitude of the parents should be investigated and modified where necessary. Nagging and coaxing should be eliminated, and overauthoritative, overcritical, overcorrective, overprotective attitudes should be discouraged.

ANGER

Anger results from thwarting or interference with a strongly developed impulse. It is considered one of the primary emotional responses and can be elicited in the newborn where it manifests itself as the stiffening reaction to hampered movement. As in the case of aggressive and negativistic behavior, it becomes prominent during the second year of life when the child is acquiring the technics of self-dependence and before he has reached the stage of intelligent control. From the second year up to maturity there is a steady decrease in the frequency of outbursts of anger.

The temper tantrum is one of the common manifestations of anger during the first four years of life. The child lies on the floor, kicks and screams, often holding the breath until cyanosis appears. Convulsive twitchings may be associated with the cyanosis.

Etiology.—Temper tantrums are about twice as frequent in children who find that an outburst of anger is an effective means of getting their own way as in children who find such behavior unprofitable. Furthermore, children who have had prolonged illnesses, particularly during the preschool years, continue afterwards to display anger more frequently than unselected children, presumably because sick children become accustomed to having their own way.

Children subjected to inconsistent disciplinary methods show anger more often than the average and are, in addition, more likely to become resentful and sullen afterwards. Outbursts of anger are also more common in households containing several grown-ups than in homes where the parents are the only adults, probably because of conflicting standards and methods of training.

Anger may be conditional and situations which normally would not provoke anger may lead to tempests of rage. An example is the child who becomes angry whenever going to the toilet is suggested because his mother is in the habit of interrupting his play abruptly and taking him to the toilet. The anger which was first aroused by the interference with play is transferred to the toilet situation so that mere mention of the toilet suffices to provoke a storm. The effect of

conditioning is also seen in the intensification of minor irritations associated in the past with real anger experiences or with disliked individuals.

Outbursts of rage are often imitated and many children with uncontrolled temper will be found to have a parent with a similar disposition. Somatic influences such as illness, fatigue, hunger also make for increased irascibility.

Management.—The factors mentioned under etiology should be considered. The child should be taught to have a reasonable respect for the rights and opinions of others. He should acquire a spirit of fair play and be willing to abide by the rules of the game even when he is the loser. Thwarting should be avoided by using foresight and planning in regulating the normal activities of the child.

Outbursts of rage should be treated casually. As far as possible the child should be ignored and isolated so that he may not feel that he is gaining attention. The temper tantrum should be disregarded as it is primarily an attention-getting mechanism; instead the child should receive sufficient applause for desirable conduct. He should learn that a temper tantrum never results in his getting his own way. Parents should continue to be good tempered, consistent and understanding.

CRUELTY

Cruelty is a serious disorder of behavior. In contrast to the angry, jealous or spiteful child, who needs some provocation to call forth the unpleasant reaction, the cruel child hurts for the pleasure of hurting and for the satisfaction of seeing others suffer. He lacks sympathy and is apt to select as his victims smaller children or helpless animals, since cowardice is frequently associated with cruelty. Kanner has found a lack of consideration for the feelings and sufferings of others in the parents and in many instances the child himself has suffered severe disciplinary measures. Treatment requires a careful study of the parent-child relationships.

The possibility of deep-seated disturbances in the brain, as revealed by electroencephalographic changes, should be considered.

INSECURITY

Only by knowing that he is loved and by being sure of his place in the family can the child feel secure. He needs affection to make him sure of his worthiness, and parental interest and discipline to help him in his choice of conduct. He needs friendly encouragement to make him ambitious and to help him carry on in spite of difficulties. Self-confidence is necessary if he is to live a happy and useful life.

Unfortunately many children believe in their own inferiority. This results most commonly from parental indifference or rejection. Every child has frequent failures and unless he finds affection and understanding in his parents he becomes easily discouraged. Only with the knowledge that others believe in him will he be able to mature normally. He needs help to conquer fear of his own aggressive impulses and uncertainties about his conduct. If he knows that his behavior is understood and that someone is willing to help him he will lose much of his

worry and guilt feeling. When neglected by his parents or where there is lack of affection he has nothing to give him confidence and security.

Insecurity feelings are observed in the overprotected, overindulged child when he is required to meet strange adults or children or when he is placed in an unfamiliar situation such as first attendance at school. Since he has always been shielded and has never been taught to take responsibility, he does not know how to act in a new situation or what is expected of him.

Lack of confidence in his own ability and worthiness frequently accompanies sibling jealousy. Because the brother or the sister seems to be the child who is better loved or more appreciated he considers himself inferior and so feels insecure. A similar condition arises when the parents are incompatible. The child is confused as to which parent is right or how either parent can be wrong. As a result he is apt to feel himself unworthy.

Appreciation by the child that he has a physical defect or undesirable habit frequently leads to a feeling of inferiority. In some instances the defect is slight but teasing by other children hurts the child and makes it appear important. Another cause is shaming for an undesirable habit.

At school age, if the child feels himself to be different from the children about him, he is likely to feel embarrassed and insecure. If his clothes are not like those of his friends, if he is of a different nationality or religion, if he lives in a worse or, sometimes, in a better environment, even if he has some talent which his friends and siblings do not possess, he may be conscious of his difference and feel unworthy. If he is teased or unpopular at school this feeling will be increased. Inability to live up to the standards set for him, even in a bright child, will tend to make him feel inadequate. Failure in school work or in sports is a common cause, especially if this is stressed by teachers or parent.

Insecurity and lack of confidence are common during adolescence. Because of the conflict between childish conduct and adult ideals the adolescent frequently fails to exhibit the behavior he desires. He loses confidence in himself and his outlook becomes confused. The insecurity is further increased by the realization that he is poorly prepared for the life he must lead. Most adolescents today have been coddled and pampered too long and are not able to seek out their own work. Employment is harder to find than it used to be and greater efficiency is needed in many jobs. Economic insecurity adds to the feeling of uncertainty. Insecurity is seen where children are given too much responsibility.

Feelings of insecurity are experienced at some time by everyone but, unless pronounced, they do not interfere with normal development.

Symptoms.—Excessive lack of confidence and insecurity, if allowed to persist, cause increasing unhappiness during childhood and adolescence and lead to a number of useless symptoms. The child's experiences are colored by fear. He is shy and reticent, prefers to be alone and will not join in sports and games. Self-consciousness is common. He is uncertain, timid about attempting unfamiliar activities and hesitant to make decisions. When he finally makes them he is dissatisfied and annoyed. He is apt to cry easily and sometimes feels guilty and ashamed. In many instances the child is hyperactive, unable to sit still, playing with pencil, clothes, etc., and a real nuisance in school. He may appear to refuse

to conform because he does not know what is expected of him. Temper tantrums and fits of anger are not unusual.

A constant feature is a desire for affection. When this can not be obtained the child strives for attention, often by obvious and unpleasant means. He may display aggressive tendencies and vengeful conduct. Sometimes the show-off is really the insecure child who is overcompensating and trying to get attention. There are many habit disturbances, common among which are refusal to eat, nail-biting and negativism.

The behavior of the insecure adolescent is often inconsistent, at one moment he is shy, embarrassed and unhappy, and at the next apparently overconfident and determined. Sulkiness alternates with outbursts of anger and insistence upon being left alone.

Management.—The management consists of removing the etiologic factor, compensating for it and instilling confidence in the child. Primarily it involves improving the home situation so that the child receives sufficient affection. Direct approach to the parents will sometimes bring good results. If possible the condition which causes the child to feel inadequate should be removed. If this is impossible, it should be explained to him and he should be taught how to accept it or cope with it. Sometimes, if his ability in other lines is commended, the child will gain confidence in himself. He should be permitted to conform to his group as far as possible.

SEX

That the factor of sex is active during early life is evidenced by striking differences in growth and mortality before birth. The male fetus grows more rapidly than the female and is, on the average, both taller and heavier at birth. On the other hand, ossification of the bony centers proceeds more rapidly in the female during prenatal life and afterwards. There are marked differences in fetal mortality, boys dying in much greater number than girls between the time when sex can be differentiated and the time of birth. There are no detectable differences in the body configuration of boys and girls at birth or for some time thereafter.

Parental attitudes are influenced to a considerable extent by the sex of the infant. It is well known that females are preferred by parents seeking to adopt an infant. Girl infants are looked upon as more fragile than boys and are brought to well-baby clinics more often.

Emotional differences between the sexes have not been observed during early life although boy infants are believed by many to be more difficult to manage than girls. Girls talk somewhat earlier than boys but in other respects mental development proceeds at the same rate in both sexes. The greater aggressiveness of boys as well as their greater activity becomes evident during the second or third year of life.

In early infancy, the child's interest is centered entirely about himself and not until the second half of the first year is any attention directed to those who surround him. During the first few years the child's love is concerned solely with

the people in his home who give him pleasure, at first mother or nurse and later father and other adults in his immediate environment. After two years interest in children of his own age begins to appear but throughout the entire preschool period this is secondary to his affection for his parents.

At about six years the child begins to show some interest in persons outside the home especially the children he meets at school or in the playground. His attitude toward the sexes is undifferentiated and he plays equally well with boys and girls.

By nine or ten years the previous attachment to the home has decreased still more and loyalty to school friends and the gang becomes more prominent. Love plays only a small part at this period and what there is is still directed toward the parents. The child is more interested in children of the same sex and close friendships are often formed. Somewhat later a great admiration for an older person may develop, again usually of the same sex, but in most instances the person admired remains unaware of this as the child is shy and inarticulate.

At puberty the child's affection is transferred away from his home. The admiration which the preadolescent felt for an older person may develop into love and crushes occur. Usually the child's affection is centered on children of the same sex and gradually is transferred to his contemporaries of the other sex. There may be conflicting emotions of fondness for some member of the same sex vying with fondness for the other sex. In rare instances this interest remains fixed on the same sex.

Love is a strong force in molding the conduct of adolescent boys and girls. Sexual desires arise in all normal boys in early puberty and press more and more into the consciousness. The adolescent boy soon discovers the nature, source and pleasure of sexual activity. Although sex drives are sometimes strong, with proper understanding and guidance they are readily susceptible to voluntary control.

The adolescent child has formed ideas of love based on the observation of his parents or parent-substitutes and derived from books, motion pictures, radio and fantasy. These patterns are not deeply fixed but can be readily modified by later influences. The adolescent tends to love romantically and intensely but in the beginning is shy and fears all physical contact with the loved person. At the same time he enjoys the sexual excitement of games, dancing and petting without any real feeling of tenderness or affection for the other person concerned. He must overcome his self-consciousness before he can enjoy "going with" a member of the other sex. The adolescent should not be ridiculed as this makes it doubly difficult for him to overcome his intense shyness. When this is passed he is able to combine the tender and sensual aspects of love.

As the child grows older he discovers that love includes many qualities, tenderness, generosity, passion, self-sacrifice and responsibility. Gradually he discovers that the object of his love must have more than physical attraction; emotional and intellectual compatibility, too, are essential for happiness. Marriage is an important step and interest in marriage increases during later adolescence.

Crushes.—An exaggerated friendship or temporary fascination between two people of the same sex is called a "crush." It is seen most often between adoles-

cent girls but occasionally an older person may be the object of the exaggerated admiration. Crushes usually have no erotic meaning for the child and they generally run a brief course with no serious consequences. There is reason for concern over the possibility of sexual perversion only when the child's admiration is taken advantage of by the older person. Crushes are objectionable since they lead to the exclusion of friendships with other children. They are usually looked upon with disfavor by the children of this age.

Where a crush has developed, the situation should be handled with sympathy and understanding. Emotional damage and lasting resentment may result from rude interference.

Chums must be distinguished from crushes. Usually a chum does not mean the exclusion of other friends, and the relationship is considered normal and desirable.

Modesty.—Modesty does not exist naturally in the normal child but develops through learning and imitation. Small children run about freely without clothes and, until 6 or 7 years of age, it is probably desirable for brothers and sisters to see each other in this way. This is a simple and natural method of satisfying the child's curiosity about his body. Fathers and mothers may undress before their children of the same sex and should answer their questions about adult characteristics frankly.

During the school years children learn that boys and girls do not appear together without clothes. Until the appearance of secondary sex characteristics sisters often dress and bathe together, then, during a period of 3 or 4 years, they are less free, after which time the attitude varies with their upbringing. Boys are always more free with each other than are girls. After puberty they no longer permit mothers or sisters in their room while they are undressed.

Some understanding of modesty and the reasons for not appearing in public without clothes may be given to the young child. This should be done with care and understanding so as not to connect shame or disgust in any way with nudity, since excessive modesty may develop in this way. Where this has taken place the attitude of the parents towards sex education should be investigated and corrective advice given.

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CHAPTER VIII

THE EMOTIONS (*Continued*)

Stimuli which Elicit Fear: Fear of Darkness, of the Father, of Water, of Being Lost, of Being Different, Induced by Exciting Motion Pictures, of Books, of Radio, of Parental Disapproval, of Socio-Economic Inferiority, of Aggressive Impulses, Stage Fright, Fear of Death. Abnormal Fearfulness. Anxiety States. Phobias. Compulsions. Hypochondriacal Trends.

FEAR

Fear is one of the principal forces which motivate human conduct. As a reaction which leads to an appreciation of danger, it assists the individual to protect himself. The purpose of proper training is not to eradicate fear but rather to so guide the child that fear may be a protection against danger and a deterrent against improper behavior. The child should fear danger, punishment, loss of approval of those he loves and loss of approval of his own conscience. Fear should serve as a brake on unreasonable impulses and as an aid in conforming to social demands.

Aside from the influence of training, parental example and experience, there are wide, individual differences in the responses of children to the unfolding world and these become apparent at an early age. Some children react to each new situation with courage and daring, whereas others respond with fear. Often the object or situation which the child fears is merely an occasion for focussing a persistent anxiety upon something definite. Such differences are dependent on the innate endowment of the child and are to be expected, since all traits are subject to variability. They must be respected in the training of the individual child.

According to Watson, fear is one of the primary emotions and may be elicited in the newborn in response to only two stimuli, loud sounds and loss of support. Watson's observations have been extended and modified by Jones who found that, as the infant matures, the external stimulus patterns are less specific and the state of readiness becomes of considerable importance. Conditioning plays only a minor role and the larger number of stimuli which elicit fear as the child grows older is dependent on the maturation process and the child's widening experience. The common factor in fear-exciting situations is suddenness and unexpectedness. The reassured child, with a strong sense of security, is less likely to show fear or rage than the insecure child.

The stimuli which elicit fear may be divided into two groups, objective, *i.e.*, fear of things which may be seen, heard or felt, and subjective, *i.e.*, fear

based on the feelings and attitudes of the child toward something he has heard or imagined and on which he has brooded.

During infancy fear is elicited by the immediate properties of concrete stimuli such as noises, strange objects, and loss of balance. The young child probably fears any novel or unexpected stimulus with which he is unable to cope and for which he has no adequate response. Between 2 and 5 years there is a sharp decline in the frequency of fear responses to concrete stimuli and an increase in fears of imagined, anticipated and supernatural dangers. Fear, with no means of escape, may arouse anger.

When fear results from undesirable conditioning, as, for example, the child's fear of the bathtub because at one time he has slipped and fallen, unconditioning should be undertaken as soon as the effect is recognized. This should be done slowly, persistently and with an attitude which will help the child to feel assured and secure. Unconditioning can be carried out by having the child rehearse the traumatic experience, with the parent at the same time giving encouragement and reassurance.

Fear of the dark is probably the commonest fear during early childhood. This may result from undesirable conditioning as when the child is relegated to a dark room as a disciplinary measure. Most commonly, however, it arises from the child's sense of isolation at bedtime. Since he cannot be distracted by the familiar objects in the room because of the darkness he must rely on his own feelings, thoughts and fantasies. The fearful child should not be shamed and forced to endure the dark since this, instead of making him courageous, simply substitutes fear of parental contempt and disapproval for fear of the dark. It is wiser to praise his courage in other fields rather than to remind him of his failure in this one. Keeping a light in an adjoining room, remaining with the child for a few minutes after the light in his room has been extinguished, a quiet story or chat are ordinarily sufficient to reassure him and wean him from his fear.

Many infants cry out in fear on *approach of the father* because of the hearty manner which some fathers assume toward their offspring. *Fear of strangers* is usually dependent on the same mechanism. In making contact with a young child strangers should avoid abrupt movements toward the child (*e.g.*, abrupt extension of the arms). The child should be permitted to approach at his own pace, arms or hand should be extended gently and hilarious greetings should be avoided.

Children are often *afraid to go in swimming* but, with experience and growing mastery, they learn to enjoy it. If a child is exposed often enough, in reassuring company and under safeguards sufficient to give him a sense of security, fear usually gives way to pleasure in a newly found activity.

Another fear is that of being "lost" or being deserted by the parent. This is most common where there is insecurity but it is also found in children who have not been given a reasonable amount of responsibility. An encouraging word, even from a stranger, may prevent a lasting, unpleasant effect on the child.

At school age the *fear of being different* is prevalent, particularly among boys who feel that they must dress, speak and behave like the group. Closely

allied to this is the fear of not being accepted by one's group, *i.e.*, of not being popular. Children who are obviously shy are not the only ones who suffer from this, but also quiet, studious children whose parents think they actually prefer to be alone and do not realize that their children enjoy play as much as do others, but hesitate to participate because they fear that their company may not be desired. Self-consciousness is a form of fear; it is fear of disapproval. Unnecessary criticism, fault finding, urging a child to do better than he is capable of doing, may lead to loss of self-confidence. Reassuring the child of his own worthiness, helping him to conform to the type desired by eliminating petty differences in dress, etc., and showing him where he can improve himself are beneficial. In addition the child should be helped to appreciate that there is more in life than merely being popular.

Fears induced by motion pictures, radio narratives, books, frightening threats by older persons, or by sensational newspaper accounts are more frequent than first-hand experience with terrifying situations. These experiences terrorize the child for the moment and often lower the threshold to other fear stimuli. These fears can and should be avoided, and the child should be shown that there is no direct application to him or to those about him.

An awareness by the child of parental indifference as to his behavior or of their disapproval of his judgment may lead to an intense desire to be perfect in their eyes and so to a loss of confidence in himself. Decisions of even the simplest sort are impossible for him. Thus many children, when asked by their parents what they would like to do or where they would like to go, seem unable or unwilling to make up their minds. The reason for hesitation often is the fear to make a choice which the parents will disapprove or which they may think inappropriate or silly. Some children are so eager to please their parents and, at the same time, they are so fearful lest they fail to live up to parental expectations, that they are overcautious and hesitant about making decisions. This response is seen most frequently in overprotected children and in those whose parents set up high ideals of behavior.

During adolescence, *fears regarding the economic status of the family* are common. The extent to which children should be expected to share the worries of the family is a matter of judgment. They should have as much information as they are capable of understanding, but it should not be presented in such a way as to bewilder them and threaten their security. Children should be taught to meet change in economic circumstances with courage, not fear, and for this purpose the example of the parents is all important.

Fears centering about general socio-economic trends, war, etc., are not uncommon at the present time. Children's questions on these matters should be answered in good faith but they should not be expected to share in worries about affairs over which not even their parents have any control.

During the preadolescent and adolescent years many fears are concealed, the child keeping them hidden lest he be considered a coward or a poor sport. Thus a child who is terrified to dive, will attempt to dive rather than admit that he is afraid and possibly be teased and shamed as a coward by his friends. This is, of course, the substitution of one fear for another. The parents should

show the child the wisdom of caution rather than foolhardiness and help him to have the courage to refuse to take a dangerous, unnecessary risk.

Children not uncommonly experience *fear of their own aggressive impulses.* As they mature they learn to appreciate that temper tantrums, cruelty, jealousy are undesirable modes of behavior. They brood over their impulses and become fearful of situations in which they may react in this way. Thus the 5-year-old child who is jealous of his baby sister may refuse to go near her because he is afraid that he will show his hatred and so deserve the scolding or look of disapproval which he is likely to receive. It is not the punishment which he fears but the feeling that his behavior is not desirable. Fear of not behaving in an acceptable manner occurs also in children who have been humiliated by their parents and so have become anxious.

Stage fright is an almost universal fear but there are wide individual differences. Even the small child is frightened when he first stands before a group. This becomes more pronounced as he grows older and becomes more conscious of his relations to other persons. The most prominent symptoms of stage fright are increased heart rate, trembling of the hands and knees, pallor, sweating and a tight or empty feeling in the stomach. Sometimes the mere thought of having to appear before an audience is enough to bring on these symptoms. Stage fright disappears rapidly when the performer senses that the audience is interested and appreciative. The treatment consists of instilling more confidence in the performer by encouragement and praise. Appearance before small groups at first, then gradually increasing the number is helpful. The performer should be drilled so that he is sure that he knows what is expected of him.

According to Goodhue there is always a "first cause" or frightening experience where severe stage fright is present. Sometimes the patient will remember it, sometimes his memory fails him but a little questioning will usually bring the disturbing episode to the surface, often to the amazement of the patient. The first cause may have been trivial and not associated with a public appearance but it is always a fear-producing incident associated with a feeling of inferiority. Where a "first cause" can be discovered, open discussion of the episode with the patient helps greatly to alleviate the symptom.

Fear of Death.—The young child is unable to grasp the finality of death. He hears of the dying of a playmate without more emotion than he would experience on learning that the playmate had moved away. He may be lonely at first but this is soon forgotten. Death affects him only in so far as there is the loss of someone on whom he is dependent for love and security and under such circumstances he feels bewildered, lonely and insecure.

The child acquires his attitude toward death from his parents and friends. Where death is viewed as the final and most terrible evil that can befall the individual, it is futile to try to shield the child from the emotional reactions of such an attitude. If the child has been given some understanding of death he will not be so shocked and overwhelmed by grief when someone dear to him dies.

The child should be taught that there are inescapable sorrows and tragedies in life and that death is the inevitable sequel of birth and life. It is regrettable in the enforced separation which it necessitates but it is not terrible. One adjusts

oneself to the separation. An early acquaintance with the death of animals is an invaluable aid in teaching a reasonable attitude toward death.

Lack of an understanding of the physical phenomena of death is disturbing and frightening for the child. Death should not be compared to a long sleep as this is confusing to the child and makes him apprehensive. He should rather be told that death is insensibility to all sensation, thereby eliminating the fear of premature burial which is not uncommon among children.

Although children cannot be spared the inevitable sense of loss and unhappiness which accompanies the death of a parent or beloved friend, the emotional shock of the funeral and the sight of the acute suffering of others can and should be avoided.

ABNORMAL FEARFULNESS

Fear through which the individual becomes aware of real danger and attempts to safeguard himself is necessary for survival. There is, however, the fear which leads the child to anticipate with dread harmless situations and to exaggerate hazards, thereby paralyzing effort. There may be fear of innocuous stimuli, such as strangers or animals; or exaggerated responses to normal fear-producing situations, as the fear of diving.

Night terrors and nightmares are fear reactions.

Etiology: *Improper Training.*—Children must be taught to fear certain situations so that they will avoid danger. It is apparent that a child may be overtrained and as a result become excessively timid and fearful. This is especially apt to occur where the parents are themselves overanxious or overcautious.

Imitation of parental fear reactions is a potent cause of excessive fearfulness in children. If the parent is timid, afraid to be left alone, fearful of thunderstorms, etc., it is only natural that the child should imitate this attitude. Fear may also be acquired in imitation of playmates, school teachers or other persons.

A *frightening experience* may lead to excessive fearfulness, for example, the child who is afraid to ride a bicycle or roller-skate because he has had a bad fall.

Parental Attitude.—Overprotected children show fright reactions readily because their training is not of the kind which allows them to cope independently with new or unusual situations. Anything which leads to insecurity will make the child more liable to fear.

Deliberate attempts by older persons to frighten the child by such threats as "I'll give you to the policeman," or "I'll go away and leave you if you don't behave" make the child excessively fearful. Vivid, gruesome stories are sometimes told to children which frighten them unnecessarily and lead to bad dreams and nightmares.

Moving pictures, radio narratives, sensational books or newspaper accounts often terrorize the child and sometimes result in excessive fearfulness.

Treatment.—The parental attitudes toward the child should be investigated and errors, such as overprotection, overcorrection, overcriticism, indifference or rejection, should be adjusted. Pressure for better work in school should be avoided and extracurricular activities reduced if necessary. Frightening narratives, moving pictures, etc., should be avoided. Parents should guard against voicing their own

fears in the presence of a timid child and should assume a self-assured attitude in situations which the child regards as frightening. The example of courageous individuals (parents, playmates) is one of the best methods of ridding a child of excessive fear.

During the preschool years presenting the child with a pleasurable object while in the presence of a fear-producing situation is useful. For example, a child, fearful of a dog, may be rid of his terror, if he is given a piece of candy or a favorite toy whenever the dog appears. Another useful device is to distract the child, *e.g.*, telling him a story during a thunderstorm which he fears.

Verbal assurances that the situation is harmless are only occasionally helpful. Ignoring the child's fear does not appear to reduce its intensity. He does not forget to be afraid unless he has matured to the point where he can reason away his own fearfulness. Shielding the child from the fear-producing stimuli will not cure him.

Shaming, scolding and ridiculing are valueless. The child attempts to contain his fears without overt expression but after a certain point the fear reaction will occur, sometimes in exaggerated form.

Anxiety states are not uncommon in children. They are seen about four times as often in girls as in boys. They occur most frequently during the prepubertal years (from 10 to 13 years) and are rare before the eighth year.

The attacks usually take place during the evening, either just before or just after going to bed. They may last only a few minutes or may persist for an hour or more. Ordinarily they recur two or three times a week but there may be several attacks during the same day.

The attack comes on abruptly. The child becomes panic-stricken, clings to his mother and cannot be soothed. He is apprehensive and fearful and may have a feeling of impending death. There is usually tachycardia and there may be pain around the heart, difficult respiration, sweating, flushing or pallor, digestive symptoms, paraesthesias or hyperaesthesia, and dizziness.

In the large majority of instances anxiety attacks are brought on by a frightening experience. In a considerable proportion of the cases described by Langford the precipitating factor was an operation for tonsillectomy and adenoidectomy. The children had been poorly prepared for the separation from the parents, for the anesthetic and the operation and hence the experience came to them as a shock. The anxiety attacks started about a month after the operation and were described by some children as "just like having the ether."

Death of a near relative or playmate is a not uncommon precipitating factor. The onset of menstruation, school difficulty, somatic illness may also lead to anxiety attacks.

The children who develop anxiety attacks are of the serious minded, worrisome, conscientious type. Most of them are timid, high-strung children who mix poorly with their playmates. Personality difficulties are common among them and abnormal fearfulness is frequent even before the anxiety attacks begin. According to Langford, the attacks are usually preceded by a period of several months during which there is listlessness, difficulty in sleeping and restlessness. An important predisposing factor is the home, which is usually tense and unstable. Personality

difficulties among the parents are common and many of them present anxiety features.

In untreated patients the attacks may persist for months or years. Therapy is effective in the large majority of patients, and in many cure takes place in a few weeks.

Treatment.—An analysis of the child's background in an effort to determine the cause of his distress and worry as well as the precipitating factor is most important. By bringing these to the child's attention, correcting them and helping him to understand the situation good results will usually be obtained. Quiet, rest and relief of tension are of great importance. Both patient and parents must be assured that the child will be cured of his attacks.

PHOBIAS

According to Dorland's medical dictionary phobia means any persistent insane dread or fear. The term, however, is ordinarily applied to unwarranted fears which continually obtrude themselves on the consciousness. The patient is aware of the unreasonableness of his emotion but helpless to control it. The phobia consists of three parts, a mental component, the obsessive idea; an emotional component, fear; and a motor component, compulsive behavior. Phobias are rare before adolescence. They develop most frequently in children who are timid, conscientious and painstaking. Because of his fear, the child feels himself different and less worthy and is apt to withdraw from companionship with other children.

Many of the phobias are mild and transient but more severe psychopathic conditions may develop. *Treatment* consists of correction of defects in the environment of the child, helping him to make social contacts, allowing him to talk freely about his difficulties, and giving him an intelligent sympathetic understanding.

COMPULSIONS

Compulsions are seen so often in children that, in the mild form, they can hardly be considered pathologic. Children frequently are impelled to touch certain objects, to step on and off the curb, to jump over the cracks in sidewalks, etc. These are more common in boys than in girls. Ritual games with rules similar to compulsions are played by children, for instance, the child must make a certain sign when meeting another child, all automobiles must be counted and kept track of, or the child must always carry a certain object. Some children make their decisions dependent upon some trivial happening such as going directly home if the next car which passes is red, but going to the park if it isn't. These are benign and of little significance.

Compulsions become annoying when they consume time and energy or embarrass the child. They are most common in conscientious, self-conscious, shy children. Sometimes the hands must be washed over and over again or the lesson must be gone over several times or the child must always cough before he recites. The child usually understands the foolishness of his action but is unable to stop; sometimes he believes some dreadful calamity will occur if he does not heed his

obsession. In consequence he becomes embarrassed and isolates himself so that others will not make fun of him or scold him. In some instances the child becomes so disturbed and unhappy that he may run away or threaten suicide. If untreated the condition may persist indefinitely or become increasingly severe.

Treatment.—To tell the child that his action is useless or unnecessary is without value as the child already realizes this. Instead his environment should be so regulated that there is as little tension and strain as possible. The parents should be cautioned against scolding or embarrassing him, and siblings and playmates should not tease him. The child should be allowed to talk freely to an unemotional adult about his compulsions and anxieties. Free expression will often relieve his worry and unhappiness. He can sometimes make his new adjustments easier in a different environment where new adaptations are necessary and where he is faced with new people and a new mode of behavior. Compulsions often disappear under such circumstances.

HYPOCHONDRIACAL TRENDS

In the majority of cases, hypochondriasis in the child arises when the parents are themselves hypochondriacal and where there are frequent discussions in the home about health and disease, medication, patent-medicine dosing and medical folklore. Where this background is present severe illness or death in the family or neighborhood, a fright, failure at school or sibling rivalry, is sufficient to bring on the clinical symptoms. Another group is composed of children who have been medically mismanaged and who have been invalided too long after an operation or illness. Often they have been humored and amused during an illness so that this is remembered as a pleasant, desirable and happy occasion.

Hypochondriasis in children manifests itself by the same symptoms as in adults, palpitation, shaking in the stomach, headaches, pains in the chest, abdomen and legs, weakness, giddy spells, epigastric distress, fatigue, vomiting. Physical examination is negative or shows no relevant findings. In their personality responses the children are equally divided among the hypersensitive, shy, whiny, readily suggestible and the lazy, indifferent, fighting, sullen. In general the behavior of the hypochondriacal child is characterized by anxiety and excessive interest in his own person.

The prognosis is good and most children who are properly treated recover entirely.

Treatment consists of (1) clarifying medical uncertainties and making the parents and child appreciate that no medical ailment exists, (2) the correction of improper parental attitudes and improper habits of eating, sleeping, playing, and (3) the finding of suitable outlets for the child's energy and emotional expression in work and play. An important point in the prevention of hypochondriasis is the proper management of the child with a physical ailment. Illness should not be treated as a welcome break in the routine with excessive attention and special privileges. Illnesses should not be looked back upon as periods of great pleasure. The child should not have to be sick to have his life made happy and pleasant.

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CHAPTER IX

THE MENTALITY

Intelligence. Maturation of Mental Faculties. Mental Testing, Usefulness, Underlying Principles. Definitions of Mental Age (M.A.), Intelligence Quotient (I.Q.), Basal Age (B.A.). Distribution of I.Q. in General Population. Types of Tests. Technical Errors in Intelligence Testing. Consistency of Intelligence Scores. Factors Influencing Intelligence Test Results, Sex, Race and Nationality, Residence in Urban or Rural Community, Regional Differences, Benzedrine, Prematurity, Adverse Environment, Family Resemblance, Miscellaneous. Testing During Infancy. Testing During Preschool Years. Educational Achievement Tests.

INTELLIGENCE

The term "intelligence" like "nutrition" is a general one and both are equally difficult to define. "Intelligence" has been used to mean capacity for knowledge, capacity for abstract thinking, the ability to get and use the truth, the power of auto-criticism, and a general capacity for adjustment. The psychologist is apt to think of intelligence as the type of behavior which is defined by a given test. Mental development means more than improvement of performance on standardized tests or advancement in school subjects. It means ability to get along successfully in the community without supervision, to adjust oneself to the environment, to cope with emergencies.

Intelligence changes with age both quantitatively and qualitatively. Any individual may develop unequally in different directions. The testing of intelligence has not been greatly influenced by the changing concepts of general intelligence; instead it might be said, the concepts have grown out of the tests.

MATURATION OF MENTAL FACULTIES

During infancy the rate of mental development is very rapid, observable changes in behavior taking place each month. Since behavior items emerge in a fairly definite sequence, it is possible to predict from the responses obtained at one age level what, in a general way, the performance at a later time will be. If the infant is retarded at the first test it is probable that he will continue to be retarded during the remainder of childhood. Naturally there are atypical forms of defect and deviations with more irregular growth curves.

The tempo of development varies from individual to individual. Though mental capacity is determined primarily by the original growth potential, environmental factors are not without influence. With intelligence, as with

other human attributes, an optimal environment is necessary for full growth and children who are subjected to an unstimulating environment will not live up to their full capacities.

Mental development reaches a "maturity level" some time during the second decade of life, probably between 14 and 18 years of age. The age depends, to a considerable degree, upon the type of test employed since the mental functions do not develop at the same rate and different tests measure different functions. It varies also with social status, nationality and race.

MENTAL TESTING

Mental testing is useful as a method of assessing the extent of mental deficiency and the educational capacities of the individual child. Furthermore this technic has made it possible to recognize types of difficulty which have been misunderstood in the past and which have been confused with mental deficiency. Thus, through careful testing, normal children who make little use of their capabilities because of emotional blocking and who are consequently considered defective can be recognized. Another important group which mental testing has helped to divide off from the defectives consists of children with special disabilities. Many children with reading disabilities which interfere with their scholastic achievement are still looked upon as defective. Mental testing has also been found useful in vocational guidance, in work with delinquents and in the investigation of mental growth.

In mental testing the individual performance in many different functions is measured. Failure or success in any one mental function may be of only slight significance for classifying an individual since correlation between the mental functions varies widely. Success in music, representative drawing and mechanical ability, for example, are relatively independent and correlate poorly. On the other hand reading ability and aptitude in arithmetic are fairly closely but not perfectly correlated with general competence while spelling is not readily predictable from general school grading.

Mental testing cannot be expected to measure pure native capacity for intellectual accomplishment. It indicates the immediate efficiency of the individual in certain specific respects. The results of all mental and educational tests are relative, *i.e.*, the score which the child makes has significance only by comparison with the scores of other children on the same tests. The score serves as an indication of the rank of the individual in a group in which he may be placed or with which he may be compared. What is being measured is the reaction of the innate endowment of the child to his training at the moment when he is being tested. The particular activities demanded of the individual being tested are selected from those which are apt to be common to the experience of all the persons who are to be compared. It is assumed that training and experience in the activities which are being tested are as nearly equal as possible among all the individuals.

Norms for intelligence are based upon the child's ability to perform prescribed tests in a prescribed manner at certain stated ages. By mental age is

meant "that degree of general mental ability which is possessed by the average child of corresponding chronological age" (Terman). The ratio of Mental Age (M.A.) to Chronological Age (C.A.) multiplied by 100 gives the Intelligence Quotient (I.Q.). The Intelligence Quotient is an index of brightness. It must not be considered infallible. It has definite limitations: (1) Its validity does not extend beyond the validity of the scale used, (2) it does not include special abilities or disabilities, (3) it may put a premium on certain abilities depending on the test used. The average I.Q. is 100 by definition, which means that the mental age equals the chronological age. Intelligence is distributed in the population at large as a normal curve. Almost 90 per cent of all individuals have intelligence quotients between 80 and 120. The middle 60 per cent, ranking 90 to 110 I.Q., are grouped as normal or average while those above are grouped as bright and those below as slow.

RANGE OF INTELLIGENCE QUOTIENTS IN CHILDREN

	I Q	Percentage in population	Clinical Diagnosis
Inferior Intelligence	Below 70	1	Mentally deficient
	70- 79	5	Backward
Normal Range	80- 89	14	Dull
	90- 99	30	Average or normal
	100-109	30	Average or normal
	110-119	14	Bright
Superior Intelligence	120-129	5	Very bright
	130 and over	1	Gifted
	150 and over	0.1	"Genius"

The Basal Age (B.A.), by which is meant the highest age level at which all tests are passed, is useful for school placement. According to Wile it is more valuable for this purpose than the mental age. Children of basal age of less than 6 years are, on the whole, incapable of succeeding in either reading or arithmetic. Apparently a definite degree of basic intellectual development is necessary in order to grasp successfully the fundamentals of formal education. The distribution of tests achieved at levels above the basal age is also valuable as this sheds light on special ability and disability.

Intelligence test results must be interpreted carefully and can not be expected to give a clear picture of the individual capacities. Children of identical mental age do not possess each mental function to the same degree. One 10-year-old child with normal intelligence may be advanced in capacity to memorize and to comprehend, whereas another may be retarded in these and advanced in interpretation and judgment. Fernald, in 1917, assembled the test results of 252 feeble-minded individuals with mental age of 8 years. He found that some of them had learned to read, while others were not able to do so. Some could do simple computations while others were unable to master the simplest concept of numbers. Some could be taught to become fairly expert mechanics, while others were able to do only the simplest sort of manual labor. Some were conscientious and

relatively trustworthy; others were untruthful, dishonest and unmoral. In some, sex seemed to be the dominant interest, while in others the sex attitude seemed to be entirely normal.

The earliest attempt to measure intelligence was made by Galton who compared the memory span in normal and feeble-minded individuals. Toward the end of the nineteenth and the beginning of twentieth centuries there was some organization of simple, single tests, mainly psychomotor or sensory in nature. Binet first clearly appreciated the futility of tests of the elemental processes as a means of differentiating the intelligent from the unintelligent subject and in 1905 he constructed the first scale of intelligence tests in the modern sense. This scale consists of a serial arrangement of 30 tests covering a wide range of subjects from infancy to maturity. Three years later he published his first age-grade scale with tests standardized in terms of Mental Age.

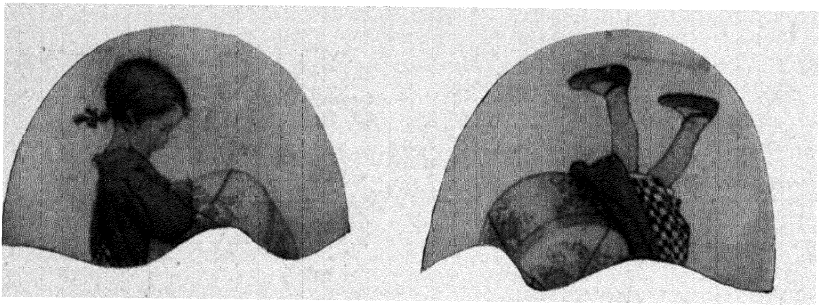

FIG. 8.—MENTAL MEASUREMENT OF PRESCHOOL CHILDREN.

Picture Puzzle No. 1, from the Merrill-Palmer Scale (From Stutsman's *Mental Measurement of Preschool Children*. Copyright, 1931, by World Book Company, Yonkers, New York. Reproduced by written permission).

Until very recently the test most frequently used in the United States was the 1916 Stanford revision of the Binet Test. This covers the age range from 3 years to superior adult and is reliable mainly for children between 6 and 12 years. At 6 years, the test can be expected to give results which are accurate within about 3 months and at 12 years about 6 months, that is plus or minus 5 per cent. It is scored as Mental Age and Intelligence Quotient. The results on this test are not greatly influenced by malnutrition, by loss of a few months at school or by attendance at a nursery school. Cultural and environmental influences at home affect the test results to only a minor degree.

In 1937, Terman and Merrill published a revision of the Stanford-Binet Test. The new test has a lower and higher range and has the advantage of being made of two alternate forms so that there is not the complication of coaching and practice effects if retesting is necessary. These are known as Form L and Form M of the revised Stanford-Binet Scale and are now widely used in the United States.

In 1940, P. Cattell published a new scale for the measurement of intelligence in infants and young children. It consists of five regular test items and one or two alternates at monthly age levels from 2 through 12 months, at 2 monthly intervals from 14 through 24 months and at 27 and 30 months respectively. The examination procedure is similar to that of the Stanford-Binet scale and the

same principle of scoring is followed. The administration of the test takes about 30 minutes. This scale correlates well with the Stanford-Binet tests and the Form L tests and is a definite improvement over the infant tests now available.

In 1925, Gesell published his Developmental Inventories, which established norms for mental and motor growth during the preschool period. No effort is made to measure general intelligence but this group of tests gives a good idea of language, adaptive behavior, personal-social behavior and motor ability. In 1938, in collaboration with Thompson, Gesell published a study of the behavior of infants from 4 weeks through 52 weeks.

The Merrill-Palmer Performance Tests, prepared by Stutsman and published in 1931, include tests from 18 to 72 months arranged in six-month groups. These have the advantage over most tests at the preschool level (2 to 3 years) of keeping the child interested. They do not require great language ability and

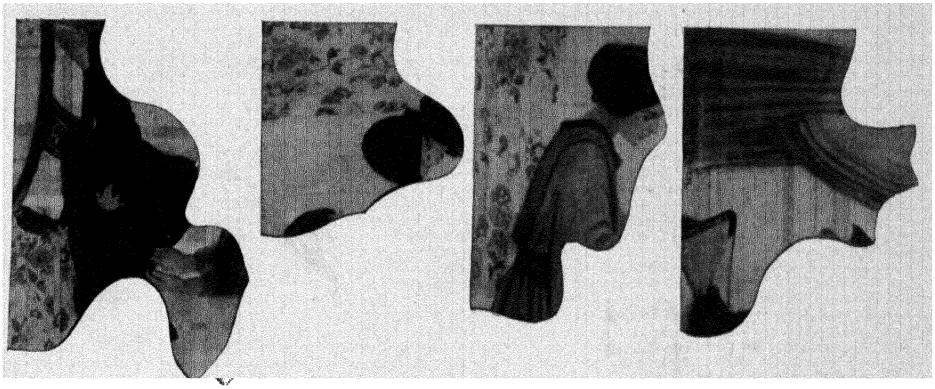

FIG. 9.—MENTAL MEASUREMENT OF PRESCHOOL CHILDREN.

Picture Puzzle No. 3, from the Merrill-Palmer Scale (From Stutsman's *Mental Measurement of Preschool Children*. Copyright, 1931, by World Book Company, Yonkers, New York. Reproduced by written permission).

have a high degree of reliability. They are concerned for the most part with the ability of the child to perform manual tests. The test is scored on the point scale, that is the test elements are arranged in approximate order of difficulty, each element passed is given a score of one point, the total score in points is the raw score obtained. The Mental Age values can be read directly from a scale provided with the test which has been standardized on normal children.

Of considerable value is the Pintner-Paterson Performance Test which is suitable for children of 4 to 15 years of age. It includes a great variety of tests and requires very little verbal response. Though it tests qualities of the individual different from those tested by the Binet tests, nevertheless it correlates closely with the Stanford-Binet intelligence scores.

There are various other tests which are much in use at the present time. Non-language tests are valuable where the child is not familiar with the language, is retarded in speech or is deaf. Group tests are used in the schools because large numbers of children may be examined at one time and because the administra-

tion is relatively simple. Special training is necessary for the interpretation of the results. Some of these tests are scored by grade or by percentile ranking rather than by I.Q.

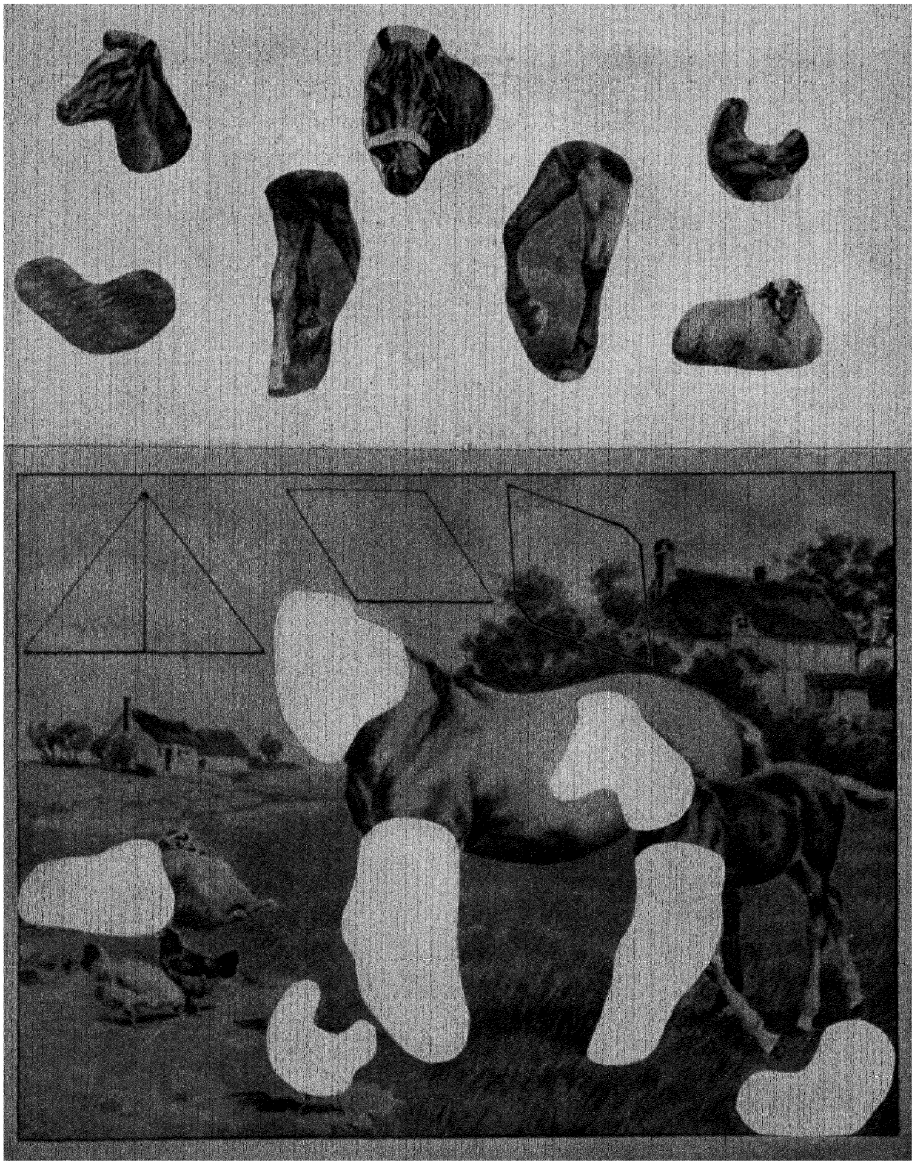

FIG. 10.—MARE AND FOAL PICTURE COMPLETION TEST.

The board is presented to the child with the seven pieces above the picture. The examiner says to the child, "Put these pieces in the right places as quickly as you can." Scored for speed and errors (From Pintner and Paterson, *A Scale of Performance Tests,* D. Appleton-Century Company, publishers).

In Brennemann's Practice of Pediatrics, Volume I, Chapter 9, page 23, is published Gesell's list of simplified behavior items for children from 4 weeks to 5 years which the pediatrician can use in conjunction with his clinical judgment in determining the developmental progress of the child. Also listed are a few simple test materials which are used in giving the tests suggested. Gesell empha-

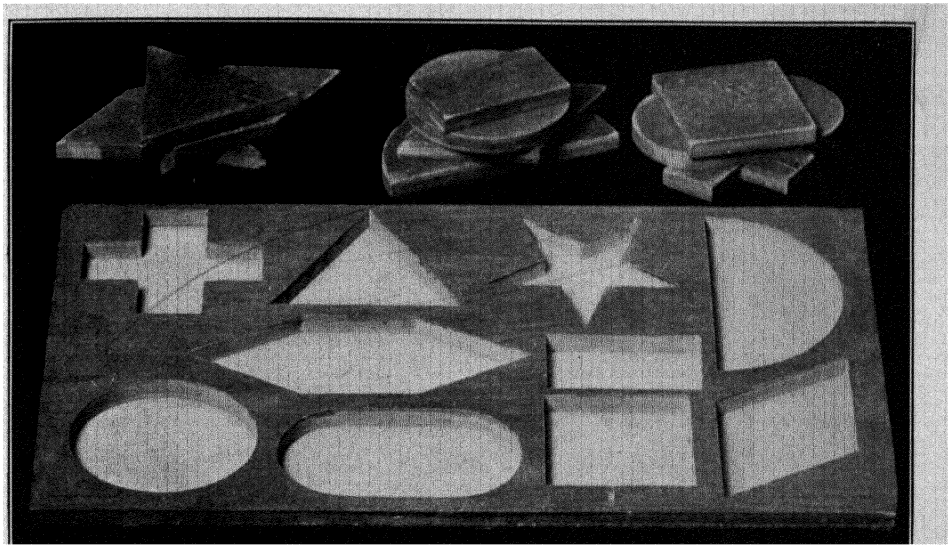

FIG. 11.—SEQUIN FORM BOARD.

The child is expected to fit the geometrically shaped blocks in the proper recesses. Three trials are allowed. The score is the time in seconds (From Stutsman's *Mental Measurement of Preschool Children*. Copyright, 1931, by World Book Company, Yonkers, New York. Reproduced by written permission).

sizes that "skilful approach and adequate rapport are essential for the optimum observations." In brief the behavior items are:

1. Spontaneous behavior of the child, his alertness, attentiveness, responsiveness.
2. Posture and locomotion, sitting, standing, walking, muscular tonicity, etc.
3. Prehension tests to determine eye-hand coordination and fine motor control.
4. Language, use of words, sentences and comprehension of language.
5. Paper and crayon behavior, scribbling, horizontal strokes, copying, drawing.
6. Social and learned behavior, the child's reaction to his environment, responsibility, habit formation, etc.

Gesell gives simple directions and developmental schedules as norms with which the child tested may be compared. The physician can not expect to obtain a numerical rating of M.A. or I.Q. without more standardized technic but he will probably be able to classify the child as retarded, average or superior. In

addition to these simple observational tests Gesell urges a critical estimate of the infant's spontaneous and responsive behavior. Many of these patterns can be observed incidentally, others must be ascertained by careful inquiry.

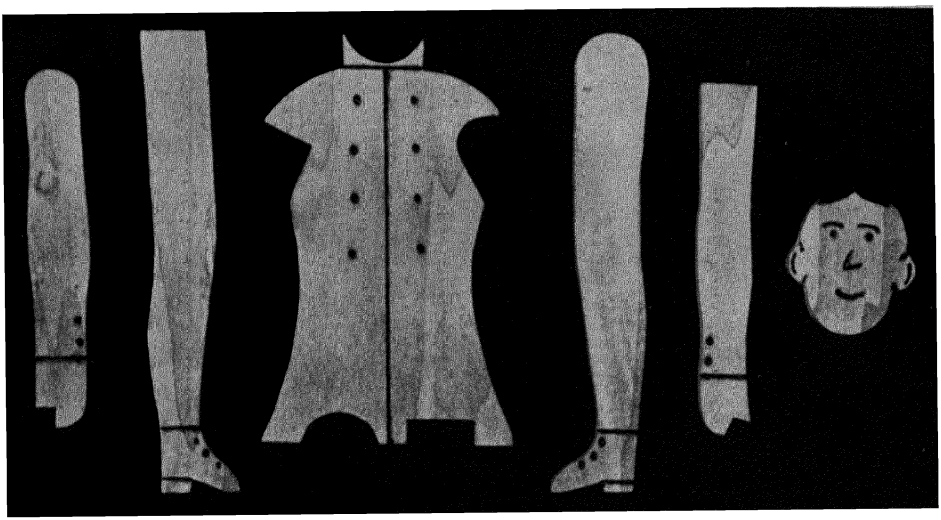

FIG. 12.—THE MANIKIN.

The blocks are presented as in the picture and the child is asked to put them together as quickly as he can. There should be no reference to the fact of the figure representing a man. Special directions for scoring. (From Stutsman's *Mental Measurement of Preschool Children*, Copyright, 1931, by World Book Company, Yonkers, New York. Reproduced by written permission).

INTELLIGENCE TESTS IN COMMON USE

Stanford Revision of the Binet Scale
Material mostly from Houghton Mifflin Company.
Directions and discussion in *The Measurement of Intelligence*, by L. M. Terman, Houghton Mifflin Company, 1916.

Revised Stanford Binet Scale Forms L and M
Material from C. H. Stoelting Company, Chicago.
Directions and discussion in *Measuring Intelligence*, by L. M. Terman and M. A. Merrill, Houghton Mifflin Company, 1937.

Cattell Infant Intelligence Scale
Material from Psychological Corporation, New York.
Directions and Discussion in the Measurement of Intelligence of Infants and Young Children, by P. Cattell, Psychological Corporation, 1940.

Gesell's Developmental Inventories
Directions and discussion in the *Mental Growth of the Preschool Child*, by A. Gesell, Macmillan Company, 1928.

Merrill-Palmer Scale of Mental Tests
Material from C. H. Stoelting Company, Chicago.
Directions and discussion in *Mental Measurement of Preschool Children*, by R. Stutsman, World Book Company, 1931.

Pintner-Paterson Performance Tests
Material from C. H. Stoelting Company, Chicago.
Directions and discussion in *A Scale of Performance Tests*, by H. Pintner and D. G. Paterson, D. Appleton and Company, 1917.

Intelligence testing is of little value unless both the administration of the tests and the evaluation of the responses are carried out according to a carefully standardized technic. Every task must be presented according to a prescribed formula and the responses must be scored according to definite rules. The following situations affect the accuracy of the tests:

(1) Failure to secure whole-hearted cooperation of the child being tested, that is, inability to establish satisfactory rapport, decreases the score. Fear, illness, etc., also decrease the achievement. (2) Coaching and practice tend to improve the score in intelligent children. (3) Misinterpretation of the child's responses may invalidate the results of the test.

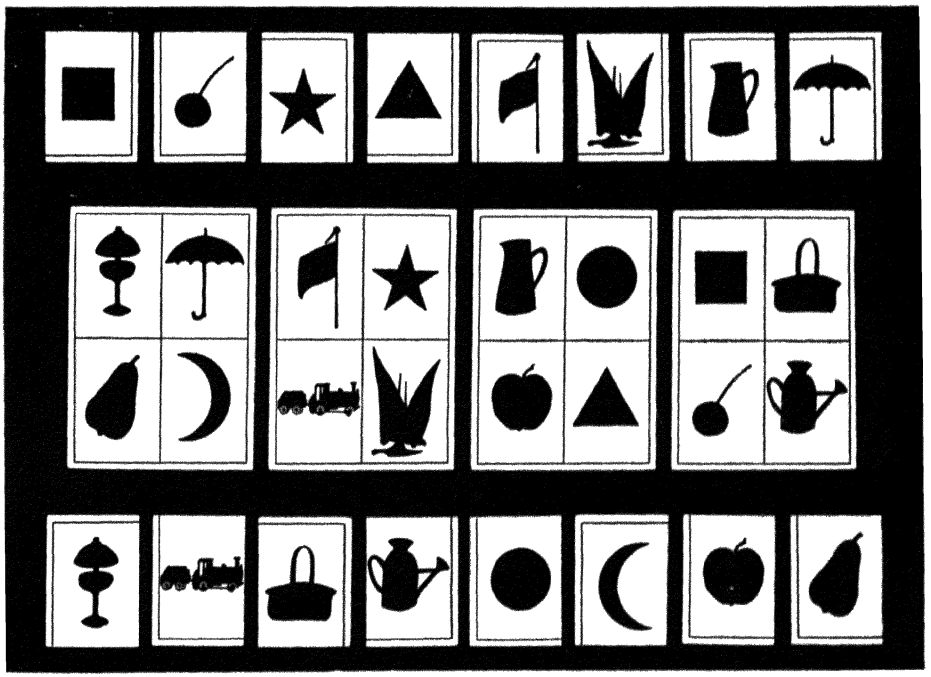

FIG. 13.—THE DECROLY MATCHING GAME FOR FORM DISCRIMINATION.

(From Stutsman's *Mental Measurement of Preschool Children*. Copyright, 1931, by World Book Company, Yonkers, New York. Reproduced by written permission).

CONSISTENCY OF INTELLIGENCE SCORES

The I.Q. is fairly stable in children after the third year of life but before this the available tests can be used only in a general way to predict later ability. Bayley made repeated tests on 48 children through the first 9 years of life. She found that infants are variable in their rates of development and hence do not maintain the same relative positions to other children except over short intervals of time. One reason for the variability is that the tests measure different functions or groups of functions at successive age levels rather than a unit of intelli-

gence that extends throughout life. Bayley's findings indicate that there is no general factor of intelligence during the first 3 years of life but, instead, a series of developing functions each growing out of, but not necessarily correlated with, previously matured behavior patterns. The children studied came from a superior environment.

In repeated retests on the same group of children after 3 years, Bayley found greater stability in the I.Q.'s although considerable shifting of ranks in the group continued. Thus 25 per cent of the children from 6 to 9 years showed changes of 10 or more points in the I.Q. on retests after one year and 17 or more points on retests after 3 years. The most stable children were those with scores near the group average. There was a strong tendency for children with extreme scores to regress toward the mean, especially at the younger ages. Her data together with those of other workers, indicate that, after 4 years of age mental growth is fairly stable up to adolescence or beyond and that intelligence tests have some practical use for prediction. However, a certain amount of variation in the rate of mental growth throughout childhood is to be expected.

FACTORS INFLUENCING INTELLIGENCE TEST RESULTS

Sex has only a slight influence on the mean scores, but boys are somewhat more variable than girls. Children of superior social status average considerably above children from an inferior environment. The order among siblings appears to affect the I.Q., only insofar as first-born children rank as gifted children more often than later born. Superior intelligence is uncommon in twins. Bilingualism has little effect after the first 3 or 4 years of school.

Race and nationality influence the I.Q. but it is not clear whether the differences found are dependent primarily on hereditary or environmental factors. The highest average scores are obtained by children of English, Scottish and Jewish descent. In all studies made in the United States, Italian and Polish children test uniformly low, but they achieve somewhat higher scores on non-language tests than on those requiring more knowledge of English. On practically all tests Negroes are inferior in I.Q. to white children as a whole but they test somewhat higher than Italian and Polish children. The average I.Q. for Negro children tends to decrease as the age and grade increases and this has been interpreted to indicate the adverse effect of poor environment on the child. Studies indicate that less than 25 per cent of Negro children reach or exceed the median of white children. Jewish children score slightly higher than those who are American for several generations. Chinese children in the United States test fairly high. Indian children score low, especially pure blooded Indians, but Jamieson and Sandiford found they almost reached average level on certain tests not involving the understanding of the English language. It is probable that the tests used do not give a fair estimate of their ability because these children have lived in a different environment and have had different experiences than the white children for whom the tests are standardized. It should be clearly understood that in all racial and national groups there are individuals who test high, only the average or mean scores differing. It is impossible at present to

estimate the intelligence of children in their native countries from these results, as immigration to the United States involves a highly selective factor.

Rural children score lower than city children. This difference decreases with the number of years of school attendance, indicating that at least part of the handicap is due to inadequate education and training.

Region.—Yerkes found that, during the first World War, soldiers from the Northern section of the country scored higher than those from the South. Race cannot account for this difference since the same results were obtained for both whites and Negroes. Possibly education was the important factor. Great differences were found between the average for soldiers from Oregon and from Mississippi, as great, in fact, as that found between Indians and whites. This wide variation is difficult to explain.

According to several observers the administration of *benzedrine* leads to an improvement in performance on intelligence tests in most children. This probably results from an induced feeling of well-being, an increase in confidence and energy, greater alertness and a greater desire to succeed.

Infants born prematurely are somewhat inferior to full term infants during the first year of life. This is less pronounced if correction is made for the time of prematurity. Smaller infants are more retarded than larger ones. Infants with birth weight under 4 pounds (1.8 kg.) do not reach the average development of full term children until the eighteenth month whereas infants weighing more than 4 pounds overtake the normal group at about 9 months of age. Prematurely born infants are more retarded in motor and manipulative development than in intellectual content and social responsiveness. In personal social behavior, as tested by the Gesell Developmental Inventory, the performance of prematurely born infants was consistently relatively superior to full term infants when account was taken of the amount of prematurity. This has been attributed to the unusual care and attention offered the prematurely born, to their closer association with adults, and to the fact that they have had an additional extra-uterine period and therefore additional opportunity for training. At a later age the prematurely born give average scores on language tests which would make them somewhat superior if account is taken of the period of prematurity. Children of school age who have been born prematurely in the majority of instances are in the proper grade for their age, and their intelligence is similar to that of full term children of like age.

Recent studies show that *continued severe trauma* such as life in an undesirable institution or exposure to an unstimulating environment in the home leads to a decrease in the I.Q. in young children. Conversely, children, reared in superior foster homes, show higher I.Q.'s than might be expected from their original heredity and environment. Studies of identical twins reared apart have shown that the greater the difference in environment the greater the difference in I.Q. One must conclude from these studies that "extreme differences in educational and social environments are accompanied by significant differences in intelligence."

Intelligence Resemblance in Families.—There is on the whole, a fairly close resemblance in the I.Q.'s of members of the same family (represented by a cor-

relation coefficient of about .50). The resemblance between siblings and mother and siblings and father is just about the same.

There is no reliable correlation between I.Q. test results and health ratings, history of illnesses, body build, skeletal maturity (as measured by ossification of the bony centers), birth order, being an only child, broken homes, excessive shyness.

Testing During the First Two Years.—Intelligence during the first few years of life cannot be as accurately measured as at later ages but tests have been devised by which infants may be classified as backward, dull, normal, average or advanced. Since intelligence in infants is largely dependent on motor ability a careful physical examination with particular attention to muscle tonus and coordination, should precede the tests. The difficulty in recognizing spastic diplegia and basilar ganglion lesions in young infants is well known. Myotonias which interfere with motor performance are not infrequently seen. Estimates of intelligence in infants with mild or even moderate degrees of hydrocephalus should be made with caution.

Intelligence testing during early life has its greatest usefulness where adoption is contemplated and this procedure is now in use by many agencies. The tests require more time and practice than most physicians are able to devote to them; nevertheless the pediatrician should be acquainted with the character of the tests used and with the reliability of the results. The tests frequently applied by physicians such as the age of smiling or sitting up are of little value because they are not standardized and the normal variability is wide. Persons trained in infant testing are now available in many of the larger cities.

Intelligence testing *between infancy and school-age* should be discouraged except where a specific indication exists. There is no more reason for determining the Intelligence Quotient in a normal child than in estimating the basal metabolic rate and there are disadvantages. A numerical rating of intelligence in young children is inaccurate. By permitting seemingly precise comparisons, it encourages an attitude of competition among mothers and leads to needless parental concern, disappointment and anxiety. There are, however, occasional instances of doubtful intelligence where testing is indicated. The physician should therefore familiarize himself with the uses and limitations of this technic. He should be able to interpret the results of the tests in a general way and understand the degree of reliability.

EDUCATIONAL ACHIEVEMENT TESTS

Educational achievement tests are designed to measure the efficiency of the individual in certain specific respects, notably those which require training. They are useful as a means of determining the efficiency of the method of training which the individual has received. The absolute score has no significance and serves only as a method of indicating the rank of the individual in a group with which he may be compared. Failure in school may be dependent not on inherent incapacity but on deficient training in the fundamentals of school subjects or on special defects in certain fields.

MORRISON-McCALL SPELLING SCALE

LIST 1

1.	run	The boy can *run*	run
2.	top	The *top* will spin	top
3.	red	My apple is *red*	red
4.	book	I lost my *book*	book
5.	sea	The *sea* is rough	sea
6.	play	I will *play* with you	play
7.	lay	*Lay* the book down	lay
8.	led	He *led* the horse to the barn	led
9.	add	*Add* these figures	add
10.	alike	These books are *alike*	alike
11.	mine	That bicycle is *mine*	mine
12.	with	Mary will go *with* you	with
13.	easy	Our lessons are not *easy*	easy
14.	shut	Please *shut* the door	shut
15.	done	Has he *done* the work?	done
16.	body	The chest is a part of the *body*	body
17.	anyway	I shall go *anyway*	anyway
18.	omit	Please *omit* the next verse	omit
19.	fifth	This is my *fifth* trip	fifth
20.	reason	Give a *reason* for being late	reason
21.	perfect	This is a *perfect* day	perfect
22.	friend	She is my *friend*	friend
23.	tired	I am getting *tired*	tired
24.	nearly	*Nearly* all of the candy is gone	nearly
25.	desire	I have no *desire* to go	desire
26.	arrange	Please *arrange* a meeting for me.	arrange
27.	written	I have *written* four letters	written
28.	search	*Search* for your book	search
29.	popular	He is a *popular* boy	popular
30.	interest	Show some *interest* in your work	interest
31.	pleasant	She is very *pleasant*	pleasant
32.	therefore	*Therefore* I cannot go	therefore
33.	folks	My *folks* have gone away	folks
34.	celebration	There will be a *celebration* today	celebration
35.	minute	Wait a *minute*	minute
36.	divide	*Divide* this number by ten	divide
37.	necessary	It is *necessary* for you to study	necessary
38.	height	What is your *height*?	height
39.	reference	He made *reference* to the lesson	reference
40.	career	The future holds a bright *career* for you	career
41.	character	He has a good *character*	character
42.	separate	*Separate* these papers	separate
43.	committee	The *committee* is small	committee
44.	annual	This is the *annual* meeting	annual
45.	principle	The theory is wrong in *principle*	principle
46.	immense	The man is carrying an *immense* load	immense
47.	judgment	The teacher's *judgment* is good	judgment
48.	acquaintance	He is an *acquaintance* of mine	acquaintance
49.	discipline	The army *discipline* was strict	discipline
50.	lieutenant	He is a *lieutenant* in the army	lieutenant

(From Morrison-McCall Spelling Scale. Copyright, 1923, by World Book Company, Yonkers, New York. Reproduced by written permission).

There are a great number of educational achievement tests. A few of these which are simple to give are enumerated below.

An arithmetic test frequently used is the Woody Arithmetic Scale. This is suitable for grades 3 to 8. There are alternate forms so that the test may be repeated. It is scored as grade score. For example, the child is scored as third grade six months in arithmetic, meaning that his ability is that of a child in the sixth month of third grade.

The Morrison-McCall Spelling Scale for grades 2 to 8 is used in many schools. There are 8 lists of words of equal difficulty so that the test may be given repeatedly if necessary. The words are pronounced by the teacher who also gives a sentence using the word in its proper meaning. The child then writes the word. This is scored as spelling age as well as grade score. The Watson Spelling Test may be used at the Junior High School level.

Among the reading tests in use in schools at present are the Gates Primary Tests for Grades 1 and 2 and the Thorndike-McCall Reading Scale above Grade 2. The technic is carefully standardized. The child reads a paragraph and carries out the directions by drawing or writing the answers to questions. This is scored as age score and grade score.

If the directions are carefully followed the physician or an assistant is quite capable of giving these tests. A little practice is necessary in interpreting the scores. Various other educational tests are used but arithmetic, spelling and reading are among the most common.

The Gray Oral Reading check tests for Grades 1 to 8 may be used to secure information concerning the specific nature of the difficulties which the poor reader encounters. Detailed instructions are published with the tests. Time required and errors are recorded. Accuracy is determined by the frequency of errors made in reading including complete mispronunciation, omissions, substitutions, insertions and repetitions. The ability to discriminate letters, the extent of vocabulary, memory span, ability to learn word forms, understanding of logical relationships as well as degree of comprehension may be determined by this test. Repeated tests will show what improvement the child is making in these various aspects. These tests should be administered by an individual with special training.

The Gates Reading Diagnostic Test may be used in similar manner for better understanding of the nature of the reading defect. This too needs expert administration.

It is sometimes wise to *test the writing,* especially if the possibility exists that the child is a converted sinistrad. The Ayres Scale for Measuring Handwriting is well standardized. The mechanics of writing are best tested by simple copying to avoid difficulties in spelling which may distract the child. Clumsiness in holding the pencil, improper position of the paper, ease and legibility with right and with left hand should be observed.

EDUCATIONAL ACHIEVEMENT TESTS

	Name or Author	*Grade*	*Date Published*
Arithmetic	Woody-McCall	3 - 8	1923
	Compass Survey	Elementary	1927
Spelling	Ayres	Elementary	1915
	Iowa	2 - 8	1923
	Morrison-McCall	2 - 8	1926
	Watson	Junior High	1935
Reading	Thorndike-McCall	2 - 12	1920
	Gates (3 tests)	1 - 8	1926
	Detroit	2 - 9	1927
	Gates Reading Diagnostic Tests	Elementary	1933
	Gray Standardized Oral Reading Check	1 - 8	
Writing	Ayres	Elementary	1917
All School Subjects	Metropolitan Achievement Tests (3 parts)	1 - 8	1931-1933

APTITUDE TESTS

Art	McAdory	Elementary-Adult	1929
Aviation (Flying Aptitude)	Henmon	Adult	1919
Mechanical	Stenquist	6 - 12	1923
	Minnesota (Paterson, Elliott, etc.)	7 - college	1930
Music	Musical Talent (Seashore)	5 - adult	1919
	Musical Information and Appreciation	9 - college	1927
Drawing	Thorndike		1913
	Goodenough	4 - 9 years	1926
Professional			
Medicine	Moss	College	1929
Science	Zyve	College	1930
Teaching	Coxe and Orleans	College	1930

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CHAPTER X

SUPERIOR INTELLIGENCE

Definition. Symptomatology. Mental Characteristics. Physical Traits. Personality. Play Interests. Etiology. Prognosis. Management.

An I.Q. of 120 or over indicates superior intelligence and includes about 5 per cent of the population. Only one per cent of children have I.Q.'s of 130 or over and only one in a thousand have I.Q.'s at or above 150. Superiority is based on high achievement in the best available tests of general intelligence or on a composite of several tests. Children who rate at or above 130 I.Q. are commonly referred to by psychologists and educators as "gifted." The gifted child is to be distinguished from the child with a special talent, such as music, drawing, etc.

In some instances a high I.Q. in a young child may indicate not superior or gifted intelligence but rather precocious learning. The child may be developing rapidly but will not necessarily continue for a long time and so need not attain superior adult intelligence. A parallel can be found in the child who is growing rapidly in height but who does not necessarily attain greater adult stature than the less rapidly growing child.

Symptomatology.—Certain distinguishing characteristics make possible the clinical recognition of the gifted child. Young children with high I.Q.'s are often referred to as "old for their age" or "old-fashioned" because of their interest in what ordinarily engages older persons and because of their tendency to express themselves in a manner beyond their years. They show an early interest in the precise meaning of words and numbers and they like dictionaries and encyclopedias. They are able to read at an unusually early age and are often the youngest in their classes.

Characteristic of the gifted child is exactness in all mental performances and a keen desire to acquire accurate information. Related to these traits is the perception of things in their multitudinous relationships, with frequent use of the phrase, "Well, that depends." Use of this phrase by a child is, according to Hollingworth, highly indicative of mental superiority. Another activity of the gifted child is an interest in time and a child of 6 or 7 years who pays understanding attention to clock, calendar and almanac is very likely to test high.

Frequent symptoms of high mental ability, but less reliable than those mentioned above because of the influence of training, are punctuality and general efficiency in the management of everyday affairs.

Gifted children are, as a group, taller, heavier and stronger than unselected children of the same age, sex, nationality or race and their physical health is better. They also reach puberty at an earlier age. Popular belief that mentally superior children are small and puny is based on the fact that, being youngest

in their classes, they are small in comparison with older classmates and with older playmates whom they prefer.

On the whole gifted children are likely to have an agreeable combination of personality traits such as honesty, faithfulness, cheerfulness, although there are numerous exceptions. Their most common faults are laziness, impatience and loquaciousness. They may be restless, inattentive and troublesome at school due to being graded too low and their school work may even be inferior. They are not infrequently argumentative, bold and overconfident. As a group, however, they show few faults as compared with children at large.

The play interests of gifted children correspond to their mental age and they consequently prefer as playmates children who are older than themselves. They play actively and have more knowledge about games than do children of their own chronological age. Gifted girls indulge in traditional girl's play with dolls, etc., to a much less extent than do other girls.

According to Terman the child with an I.Q. of about 110 to 120 more often functions as a leader of average children than a child of higher intelligence who is considered "different" by the group and is interested in things they are not. Children with I.Q. over 160 appear to have very little chance of leading their fellow children unless the median of their group is nearly that high. In addition to similar interests a leader must have a forceful personality, a generous and understanding disposition and, in most instances, a distinguished physical appearance.

It is of interest that a number of men who later attained eminence were regarded as dullards in school. So outstanding a person as Charles Darwin was considered by his masters and his father "a very ordinary boy rather below the common standard in intellect." Walter Scott was "behind his class and fell into the habit of doing inferior work." Although David Hume entered the University of Edinburgh at 11 years, his mother is reported to have considered him "uncommonly weak-minded." Newton reported that he "was extremely inattentive at his studies and stood very low in school." One can only speculate as to whether other interests kept these individuals from making progress in school or whether the judgment of teachers and parents is of little value. Possibly as children they were compared with children in their classes older than themselves.

Etiology.—The overwhelming majority of gifted children originate in homes of superior socio-economic status. Most of the illustrious persons of the past have come from parents who were professional men, people successfully engaged in commerce and members of the nobility and very few have been the children of laborers. This is true for the United States as well as for settled European countries. Furthermore they have been born largely in cities.

In the United States, children of Scotch, English and Jewish parents show an unusually high proportion who test above 140 I.Q. while Negroes, Portuguese and Italians furnish relatively few.

In Cox's study of 282 individuals of unquestioned eminence between the years 1450 and 1849 only 3 were women. In Terman's group of 643 gifted children in California, there were 352 boys and 291 girls, a ratio of 121 to 100, although all precautions were taken to avoid sex preference.

Prognosis.—Gifted children make superior school records. The popular notion that children who are superior mentally decrease in ability as they mature is erroneous. The child on entering school is compared with the entire group of unselected children and hence his superiority is readily apparent. But as he advances from grade school to high school and from high school to college a process of selection takes place with the duller pupils falling out so that by the time he graduates from a first class college the majority of his classmates are his peers. Hence it appears that he is falling behind when, actually, he is as gifted as ever but the group with which he is competing is as able as he is. The majority of college students test above 120 I.Q.

Geniuses have practically all shown unmistakable evidence of superiority in childhood but only a small proportion of gifted children become geniuses. Cox has accumulated information about the early traits of 300 "geniuses" and, together with two other skilled mental testers, has estimated the I.Q. rating that each of the 300 would have received if he had been given a standard test in childhood. The three estimates agreed closely.

ESTIMATED INTELLIGENCE QUOTIENT FOR EMINENT PERSONS

	I.Q.		I.Q.
John Stuart Mill	200	Wordsworth	150
Francis Galton	200	Walter Scott	150
Goethe	185	Byron	150
Macaulay	180	Lincoln	125
Voltaire	170	Geo. Washington	125
J. Q. Adams	165	U. S. Grant	110
Pope	160	Copernicus	105
Tennyson	155	Faraday	105
Samuel Johnson	155		

(From Cox, C. M. *The Early Traits of Three Hundred Geniuses, Genetic Studies of Genius II,* Stanford University Press, 1936).

Terman followed a group of children with I.Q. above 140 into adult life. The children, on whom observations were begun in 1922, now range in age from 22 to 37 years. The mortality of members of the group was below that of children of the corresponding age. The insanity rate was also lower but the suicide rate approached more closely that of the general population.

Nearly two-thirds of the members of the group were or had been married. The divorce rate was below expectation. About half the group married college graduates. The I.Q.'s of the spouses were not as high as those of the subjects but they averaged above that of the general population. The mean I.Q. of the offspring was approximately 127 which represents, according to Terman, the expected regression toward the mean of the generality.

The intellectual superiority of the group was well maintained and retests after 18 years showed a majority of the subjects in the uppermost 1 per cent of the population. This was true even of those who were only partially successful according to Terman's standard of success and he concludes that the gifted individual can be as readily identified in the third elementary grade as at the age of thirty. Nearly 90 per cent entered college and almost all graduated. They engaged in

extracurricular activities more extensively than their classmates, received more student-body honors and often graduated with distinction. Many went on to take graduate degrees.

The average earned income of the men at age 30 was $3000 a year and the women about one-half this sum. A number of the men were earning from $10,000 to $15,000 a year. Many women, although they equalled or even excelled the men in their school days, ceased to compete with men later on and devoted themselves exclusively to home and children.

In an attempt to estimate the factors, other than intelligence, which determined success among his male subjects, Terman divided his material into 3 groups, the highest 25 per cent (A), the middle 50 per cent (B), and the lowest 25 per cent (C). The criterion of success was the extent to which a subject had made use of his intellectual ability. In making judgments very little weight was given to earned income.

Of the A's 98 per cent entered college and 90 per cent graduated; of the C's only 70 per cent entered and only 50 per cent graduated. About 4 times as many of the A's completed one or more years of graduate work as the C's. Whereas nearly half of the A's who graduated were elected to honorary fraternities only 4 per cent of the C's were elected; half of the A's but only 10 per cent of the C's had won scholarships, fellowships and assistantships. Ninety-six per cent of the A's were engaged in professional pursuits as compared with 28 per cent of the C's. Although salary had been given little weight in the judgments of success, the average earned income of the A's was two and a third times that of the C's.

Survey of the childhood records of the two groups showed that the average scores on a 4-hour achievement test were only slightly higher among the A's. During elementary school years, average grades were almost identical. In high school the groups began to draw apart but it was not until the college period that the slump in the C's reached alarming proportions. The poor school performance of the C's could not be attributed to intellectual deterioration since on every mental test made during the course of study the C's averaged only slightly below the A's.

Family background was found to be an important factor in determining success. Nearly twice as many A parents as C parents had graduated from college and far more of the A fathers were professional men. There were 3 times as many Jewish children among the A's as among the C's.

Further differences were found in the emotional data, social adjustments and various traits of personality of the two groups. All of the early ratings, except those for health, averaged lower for the C's. The incidence of marriage among the A group was higher and the average age at marriage lower. The incidence of separation or divorce was only one-third as great in the A's as in the C's.

Management.—The gifted child ordinarily presents no special problems of management during the preschool years. On entering the elementary school, however, he becomes a problem since, in public schools, he constitutes only about 1 per cent of the population. This is not true of the private schools in large cities where about 75 per cent of the children test 130 I.Q. or above.

In an unassorted class in a public school where the I.Q.'s may run down as

low as 70 or 80 and where the majority of children are often below 100, the superior child is likely to develop certain undesirable character traits and habits which threaten his personality development and his attitude toward work. He may become lazy, overconfident and superficial. Boredom with the efforts of his intellectually inferior classmates may lead to restlessness and troublesomeness in the classroom and he may in this way arouse the antagonism of his teachers and schoolmates.

There are, however, certain compensating circumstances which tend to mitigate the situation of the gifted child in the public school. As stated above the I.Q. in U. S. A. is related to nationality, certain national groups producing more superior children than the average, while other national groups produce less. Since persons of various national groups tend to congregate together and to send their children to neighborhood schools, it is apparent that certain schools will have more superior children than is to be statistically expected, while others will have less. Hence the superior children tend to be concentrated in certain schools, where they create their own standards of performance and compete among themselves.

In certain schools gifted children are grouped in one class. They quickly discover that they are in a "bright class" and this knowledge makes them conceited but the disadvantages of such an arrangement are less than ordinarily arise when superior children are constantly reminded of their superiority by daily classroom contact with an inferior group.

THE MEAN INTELLIGENCE QUOTIENT FOR GROUPS OF EMINENT PERSONS

Philosophers	170
Poets, Novelists, Dramatists and Revolutionary Statesmen	160
Scientists	155
Musicians	145
Artists	140
Soldiers	125

(From Terman, L. M., *Science*, 92:293, 1940)

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CHAPTER XI

SPECIAL TALENTS

Arithmetic. Mathematics. Chess-Playing. Music. Mechanics. Drawing. Reading. Spelling.

The ability to succeed in a special field to a much greater degree than might be expected from an estimate of the general intelligence is referred to as a special talent. Special talents are innately determined and are usually, though not necessarily, associated with superior general intelligence. They ordinarily appear early in life, sometimes, as in the case of Mozart, at 3 years. The most commonly observed talents are for arithmetic, music and drawing.

ARITHMETIC

Though the capacity for arithmetic is closely correlated with general intelligence, there are very bright children who do not learn arithmetic readily and, on the other hand, there are children whose capacity for arithmetic far exceeds expectation from other performances. Arithmetical ability, by which is meant the capacity to add, subtract, multiply and divide, is to be distinguished from mathematical ability which implies the capacity for abstract reasoning and includes such relationships as space, time, proportion, probability.

Hollingworth gives an interesting account of several prodigious calculators. Tom Fuller, known as the Virginia calculator, came to America in 1724 as a slave at the age of 14 years. At the age of 70 years, it is stated that he reduced 70 years, 17 days and 12 hours to seconds in about a minute and a half, correcting the result of his examiner, who had neglected to take leap years into the reckoning. He also calculated mentally the sum of a geometric progression and was able to multiply 2 numbers of 9 places each. He was illiterate.

Another lightning calculator described by Hollingworth was a young Italian, Inaudi, who was studied by Binet. His fascination for numbers began at the age of 6 and at 7 years he could multiply 5 place numbers by 5 place numbers mentally. He could memorize 42 digits if he heard them, the span being considerably shorter if he only saw them. He had no other special ability and his general intelligence was not superior.

In the instances just described neither of the calculators showed special mathematical aptitude. There are others on record, however, who have shown as well great general superiority and mathematical genius of the highest order. Notable among these is Carl Frederick Gauss, the great mathematician, whose special talent was already evident at the age of 3 years when, he relates, he detected an

error in the calculation of the wages of his father's workmen. Another highly superior individual who was also a lightning calculator was André Ampère.

The secret of lightning calculation appears to be in highly developed mechanics and depends on memorizing number combinations far beyond those ordinarily remembered. Practice is important. If interest in counting wanes the special skill deteriorates but it can usually be regained by resuming practice. The gift appears to be limited to males. There is some evidence to indicate that it may be inherited.

MATHEMATICS

Mathematical genius, like musical genius, appears early in life. The precociousness of Gauss and Ampère has already been mentioned. Isaac Newton, though taken from school to work on his mother's farm when he was 15 years old, discovered the binomial theorem and the elements of differential calculus at the age of 23. One of the most remarkable examples was Pascal who, at the age of 11, reconstructed the first books of Euclid without having read any of them. Galois, who is looked upon as one of the most original mathematical geniuses of all times, died when he was only 21 years old, and the Norwegian, Hendrick Abel, who died at 27 years, had already made outstanding mathematical contributions.

CHESS-PLAYING

Chess-playing is also a special talent. It often appears early in life and reaches full maturity during the third decade of life. Among the child prodigies who later became master chess players may be mentioned Spielman, Reschevsky and the Cuban master, Capablanca who learned to play chess at the age of 4. Paul Morphy of New Orleans, one of the most brilliant chess players who ever lived, learned chess at the age of 10 years, and played master chess at the age of 13.

That special ability at chess-playing requires superior intelligence is indicated by the varied interests of chess players. Emanuel Lasker, world champion from 1894 to 1921, had distinguished himself as a mathematician and philosopher. Vidmar is professor at the Technical Academy in Ljubljana and has won renown especially in the field of electrical engineering. Tarrasch was a practicing physician in Nuremberg and later in Munich.

A gift which is shown by many chess players is the ability to play, blindfolded, several games of chess at the same time. This requires not only the ability to play well and quickly, since opponents are chosen from the best players of local chess clubs, but, in addition, the power to memorize the positions of pieces on the different chess-boards.

MUSIC

Musical talent seems to have very slight correlation with general intelligence and no correlation with success in school work. Although musical talent is specialized, eminence in this field can be achieved only where there is good general

intelligence. A survey of well known musicians shows them to be well above the average (I.Q. 145).

A variety of subsidiary functions is necessary for musical performance such as the ability to hear musical sounds, the ability involved in executing musical sounds and the ability to interpret musical compositions and to create new ideas. These could be further broken down in a more complete analysis of musical talent. Seashore has devised and standardized a scale for measuring the five basic capacities of musical sensitivity, pitch, intensity, time, consonance and tonal memory. To carry out his test a general mental age of 9 years is necessary so that it is not of value for children of low intelligence. His tests show that these elements are independent of each other, and that a combination in high degree is necessary for the successful musician.

Sensitivity to pitch is one of the few qualities which can be measured numerically. Seashore found some individuals two hundred times as sensitive to pitch as others. This should be considered in musical training in schools. Tone deafness implies the inability to discriminate pitch in certain segments of the scale. The child who is extensively tone deaf cannot know if he is singing in tune and it is questionable if he can be taught. Tone deafness is prevalent in certain families but the method of inheritance has not been ascertained. Higher animals, particularly the dog and monkey, have good pitch discrimination which may be measured by use of the conditioned reflex.

Although it is probably true that musicians always appreciate music and many appear to need it in their daily lives, many individuals who cannot perform also appreciate hearing good music. Understanding and appreciation might well be taught in our schools rather than singing.

Special musical ability is ordinarily familial and probably hereditary. It appears early in life and reaches full maturity during early adulthood. Beethoven, whose father and grandfather were musicians, started his studies at the age of 5 years and performed in public before he was 10 years old. His earliest extant composition was published when he was 13 years and at 17 years he won the admiration of Mozart for his improvisations on a theme given by Mozart. Haydn was famous as a composer before he was 25 years old and Händel published 6 very good trios, still extant, for two oboes and bass, when he was only 11 years old. Brahms made his first public appearance at the age of 10 years playing his own composition.

A most precocious musician was Mendelssohn who composed his first symphony and several operas at 12 years and his famous overture to the Midsummer Night's Dream before he was 20 years.

Mozart is probably the most phenomenal musical genius of all time. His remarkable talent appeared early in life, matured rapidly and was sustained until his untimely death at the age of 35 years. Member of a musical family, he began his studies at the age of 3 years. At 6 years he performed publicly on the harpsichord and at 7 years he played the organ and violin as well. In the same year he composed sonatas for the violin and harpsichord and one year later at the age of 8 he composed a symphony. A paper on his extraordinary talent at the age of 8 years was published in the Philosophical Transactions for 1780 by

Barrington. When he was 11 years old he composed an opera and at 14 years, after a single hearing of the famous Miserere of Allegri in the Sistine Chapel in Rome, he wrote it down from memory to the consternation of all who heard of the feat since the composition was guarded as a mystery and the performers were sworn to secrecy. Mozart's first notable composition, an opera entitled "Mitridate Re di Ponto," was composed at the age of 14 years and was performed in Milan for twenty successive nights, a record at that time. He reached full musical maturity before he was 25 years old.

Mozart, the child prodigy, became one of the most gifted musicians who has ever lived. He was a composer of great versatility and wrote masterpieces for innumerable instrumental combinations as well as the voice. Despite his premature death he wrote over forty symphonies, more than a dozen operas and ten string quartettes of major importance. After he had reached maturity his works are of uniform excellence. In addition to their rich melodic quality and originality of form, his compositions show a masterly workmanship rarely equalled by others. Though he wrote with ease, indeed his manuscripts seldom contained alterations, he was a prodigious worker. He died in poverty and was buried in an unnamed pauper's grave.

MECHANICS

Mechanical ability appears to be relatively specialized and not highly correlated with general intelligence. Learning mechanical processes and comprehension of mechanical principles nevertheless depend on general intelligence. The available tests for mechanical ability do not eliminate the influence of mechanical interest upon the outcome of the test. Since invention necessitates planning and a high order of selective thinking inventors are probably far above the average in general intelligence.

At present the best available tests for mechanical ability are the Minnesota Mechanical Ability Test for School Children, 7th grade to college, and the Stenquist Assembly tests of General Mechanical Ability.

DRAWING

At present the only tests for gauging ability in drawing are based on scoring the finished product on one of the standardized drawing scales (Goodenough's, Thorndike's, Ayer's, etc.). The fallacy here is that talent and training are not distinguished. Talent in drawing, like talent in music, results from a combination of qualities. To draw well one must perceive form, color and relationship, one must acquire the technic for reproducing these effects and in addition must have the intellectual capacity to interpret this concept and to originate new forms. Although ability to draw may accompany any intelligence, it is probable that high intelligence is necessary to acquire advanced technics and to create original drawings of merit.

Talent in drawing appears to be inherited. Manuel found artistic ability of some kind among the near relatives of almost all talented pupils.

Color blindness has no effect on ability to draw. Several eminent etchers have been color blind. Obviously this defect would make painting with colors impossible. It occurs in 3 to 5 per cent of boys, rarely in girls.

Genius in painting and sculpture becomes apparent in late childhood or early adulthood, occasionally even later, and matures slowly and continuously throughout life. Walter Pach has expressed this thought in the aphorism: A great artist's last painting is his best.

During the Renaissance, the great Italian painters started their careers as apprentices in the workshops of the master painters at ages 10 to 14 years. They rarely achieved fame until they were in their thirties or older. Exceptional were Masaccio, the discoverer of perspective, who died at the age of 27 years, and the great Raphael, who died when he was 37 years old.

Of the modern school of painters, about whose lives much more is known, the only one who showed exceptional talent early in life is Picasso. On the other hand, Van Gogh did not start to paint until he was 27 years old; Gaugin gave up his life as a stockbroker at the age of 35 years to become a painter.

READING

Only a few instances have been reported of special reading ability. One child, born in Germany, could read both German and Latin at 1 year and 9 months. His I.Q. is not known but his progress in school was followed for 17 years and he was found to be definitely superior but not to exceed 300 I.Q. which would be necessary if his I.Q. and reading ability were perfectly correlated. Terman studied a child of 150 I.Q. who at 2 years could read as well as the average child of 6, and Hollingworth reported a child with an I.Q. of 142 who at 4 years (M.A. 7 years) measured for speed and accuracy of oral reading at the 10 year level and for comprehension at the 7 year level.

White and Poull and also Bronner and Porteus have reported a few children of low intelligence who were able to read beyond the level of their mental age.

SPELLING

In general there is a close correlation in the ability to master the language functions, *i.e.*, reading, spelling, composition and learning of foreign language. There are occasional instances, however, where a child can read well but cannot spell. Very young, bright children may read accurately but spell poorly. It is much less common to find a child who can spell better than he can read.

Hollingworth reports the case of a feeble-minded girl of I.Q. 59 and mental age 7 years 4 months who tested on the Ayres Spelling Scale at fifth grade ability, at least 3 years beyond expectation from her general intelligence.

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CHAPTER XII

INFERIOR INTELLIGENCE

Mental Deficiency. Definition. Etiology, Heredity, Congenital Defects, Inflammations of the Brain and Meninges, Congenital Syphilis, Hydrocephalus, Trauma, Intracranial Hemorrhage, Lead Encephalitis, Phenylpyruvic Oligophrenia, Isolation, Epilepsy, Adverse Home Environment, Sex, Race and Nationality. Symptomatology, Degrees of Mental Defect, Personality Patterns, Behavior Problems, Sex Crimes, Physical Growth, Motor Awkwardness, Play Activities, Recognition During Infancy. The Idiot-Savant. Prognosis, Management, Education, Correction of Physical Defects, Vocational Outlook, Institutional Care, Drug Therapy, Hormonal Therapy, Choice of Vocation.

An I.Q. of 80 or less indicates inferior intelligence and includes approximately 5 per cent of the population. About one per cent of children have I.Q.'s of 70 or less and are referred to as mentally retarded, mentally defective or feebleminded. There is no sharp division between normal and mentally defective children as far as performance on intelligence tests is concerned, but a gradual progression from one to the other.

A low I.Q. in a child means that the average maturity level will never be attained and that mental development will proceed at a rate which is slower than the average. Thus a child of 5 years with an I.Q. of 70 (mental age of 3½ years) may be expected, at 10 years, to attain the mental capacity of a 7 years old child. During the intervening 5 years, his mental development will have proceeded at a rate which is only 70 per cent as rapid as the average.

Children with I.Q. between 70 and 80 are referred to as subnormal or dull children. Their scholastic achievement is usually poor, but, with encouragement and with sufficient time to study, they may manage to be promoted each term. Most dull children lack interest in school work, are generally indifferent to the opinion of their teachers and are not intellectually ambitious. Few of them reach high school. On the other hand they are apt to be as good as the average child at play, to be equally sociable and able to manage themselves quite normally outside of school. These individuals usually are able to support themselves and their families in such occupations as cab drivers, machine workers, masons, carpenters, etc.

MENTAL DEFICIENCY

A great many definitions for mental deficiency have been suggested but none is entirely satisfactory. The American Association for the Study of Feebleminded proposed that the term feebleminded be used to include "all degrees of mental

defect arising from arrested or imperfect mental devlopment, as the result of which the person so affected is incapable of competing on equal terms with his normal fellows or managing himself or his affairs with ordinary prudence." Very helpful is the use of an I.Q. of 70 as the dividing point between mental normality and deficiency. Though this implies an accuracy for the tests of measuring mentality which few would venture to attribute to them nevertheless this definition is very useful since educational and social achievements are fairly closely correlated with test performance and, if not interpreted too strictly, should only rarely lead one astray.

Mental deficiency has also been defined as a condition resulting from arrest in brain growth and development, occurring some time between conception and puberty. This is not applicable to all types of mental deficiency. Legally, mental deficiency is looked upon as arrested development of the mind to such a degree that the individual is incapable of independent social adaptation and requires some form of guidance. Emphasis is placed upon the social incapacity of the individual since interest centers on the need for supervision or institutional care.

A definition suggested by Gesell is that the feebleminded "cannot be taught to read, write or cipher with any marked advantage to themselves or society." A more general definition states that the individual can not be educated to the same extent as normal persons of his own age. This does not take into account the possibility of retardation in education due to causes other than mental deficiency, such as illness, somatic handicaps, lack of opportunity, etc.

Etiology: *Heredity.*—In the large majority of cases (80 to 90 per cent) mental deficiency appears to be dependent on the nature of the germ plasm, parents of inferior intelligence giving birth to defective children. In such instances the mental defect is generally mild, the children being morons or high-grade imbeciles.

Where mental retardation is due to gross lesions of the brain the degree of defect is apt to be severe. Among the conditions resulting from specific germ plasm defects are amaurotic family idiocy, Niemann-Pick disease, encephalitis periaxialis diffusa (Schilder), tuberous sclerosis, gargoylism, familial microcephalic idiocy, phenylpyruvic oligophrenia.

Congenital.—A number of prenatal conditions, probably not due to germ plasm defects, may lead to mental deficiency. Congenital cerebral defects and hydrocephalus are not infrequent. In this group may also be included cretinism, mongolism and naevoid amentia.

Infections such as meningitis and encephalitis may lead to mental deficiency. In meningococcus meningitis severe mental deficiency occasionally results from obstruction of the foramina or cisternae at the base of the skull or the aqueduct of Sylvius, but it may occur without blocking. Mild degrees of mental defect may become evident several years after the attack of meningitis. Complete loss of mental power is also seen in children who recover from pneumococcus and streptococcus meningitis.

Mental deficiency is a not infrequent sequela of encephalitis in infants and young children. All degrees of mental defect are seen. Speech is often affected to a greater extent than the other mental functions. Drooling, sleep disturbances

and emotional outbursts are common. In severe instances the mental defect is immediately apparent but in mild cases the deficiency may only be noted months or years later.

Encephalitis following or associated with measles, German measles, whooping cough, vaccinia, varicella, mumps, etc., does not, as a rule, lead to mental deterioration.

A causal relation between *congenital syphilis* and mental deficiency has not been definitely established. Though the percentage of mental defectives is greater among the congenitally syphilitic than in the general population this can be accounted for, in part at least, on a hereditary basis, since a high proportion of the parents and nonsyphilitic siblings show mental retardation. Meyerson concludes, from a careful study of the families of 59 congenitally syphilitic subjects, that, though syphilis produces changes in the brain and leads to dementia, there is no proof at present that it causes feeblemindedness.

Hydrocephalus may lead to mental deficiency, the degree of mental defect varying from idiocy to moronity, depending on the extent of the injury to the brain. In making prognostications it is important to keep in mind that even fairly well-marked hydrocephalus may occur without any diminution in mentality, and it has even been suggested by Abram Jacobi and others that a mild hydrocephalus may actually favor mental development owing to distension of the skull cavity thereby lessening resistance to the growth of the brain. As a rule, however, it is accompanied by mental deficiency. Hydrocephalus is frequently associated with spina bifida.

Hydrocephalus is sometimes present before birth causing death of the fetus *in utero* or necessitating craniotomy. In most instances, however, the head is normal at birth or only slightly enlarged and its rapid growth begins after 2 or 3 months, occasionally after the first year. The head usually becomes tremendously enlarged and death takes place before the child reaches his second birthday.

Neurologic disturbances, such as impairment in vision and hearing and paralyses usually accompany the mental deficiency of hydrocephalics who survive infancy. The children are often slow in their movement, speech and thinking. The majority are quiet, friendly, good-tempered and obedient.

Trauma can decrease to a lower level any degree of intelligence, causing superior individuals to become defective or the feebleminded to become more defective.

Intracranial hemorrhage as a result of difficult or precipitate birth occurs occasionally. The damage inflicted may be sufficient to cause death or interference with the development of the brain to such an extent that the child is defective mentally. Birth injury is said to account for about 5 per cent of all feebleminded children. Mental retardation is frequently not recognized before the sixth or seventh month and may be of any grade depending on the extent of the intracranial injury. In a high proportion of cases some degree of paralysis is present, often associated with convulsions.

Subdural hemorrhage usually leads to severe mental retardation. Various observers give the percentage of feeblemindedness in premature children who survive several years as from 5 to 10 per cent. The mental deficiency is due to intra-

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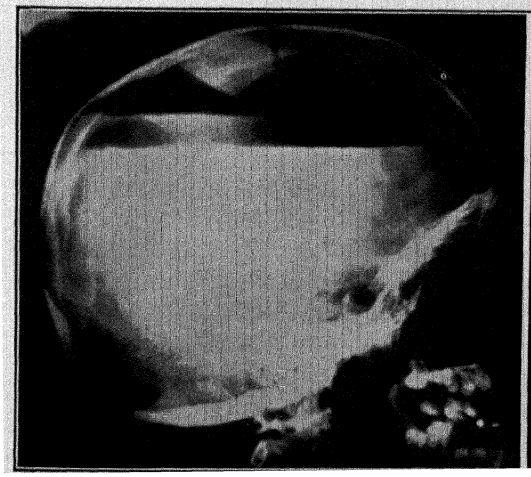

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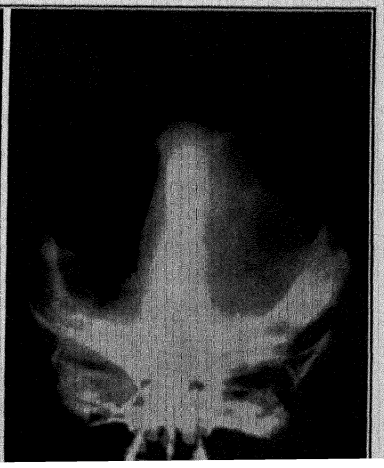

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FIG. 14.—HYDROCEPHALIC CHILD WITH NORMAL INTELLIGENCE.

A, picture of patient; *B*, encephalogram, anteroposterior view; *C*, encephalogram, lateral view. S.S., a girl 9 years, 8 months, with M.A. 8 years, 9 months, I.Q., 91. At 7½ years was in Grade 2 in Germany. Instrumental delivery. Convulsions and weakness of left side for 6 weeks following birth. Except for large head (circumference 57 cm. at 2 years), strabismus and awkward gait, well until recently when her headaches increased in severity and she experienced difficulty in vision. Circumference of head at present 70 cm. (28 inches); average 51.5 cm. Bilateral optic atrophy, retinal hemorrhage, strabismus and partial blindness of right eye. Encephalogram shows large head with enormously dilated ventricles (*B* and *C*, courtesy of The Mount Sinai Hospital).

cranial hemorrhage during or shortly after birth and is usually associated with motor lesions.

Lead encephalitis.—Lead poisoning in infants and young children frequently affects the central nervous system. The mortality is high and the few children who survive show permanent and severe damage to the mental faculties.

Phenylpyruvic oligophrenia was first described by Fölling in 1934. It is a hereditary form of mental deficiency, associated with the excretion of phenylpyruvic acid in the urine. The mental defect is severe but in no way characteristic. The metabolic defect is apparently dependent on a failure to utilize phenylalanine which is converted to phenylpyruvic acid and excreted. This substance can be detected in the urine by acidifying with sulphuric acid and adding a few drops of ferric chloride. A dark green color appears after a minute or two and then disappears after a time.

Isolation.—Mental deficiency may result from isolation or severe deprivation as sometimes occurs in blindness or total deafness. This is seen only when the deprivation takes place during early childhood and training procedures are withheld. The mental defect is usually mild and may be accompanied by hallucinations.

An example of isolation amentia was Caspar Hauser, who appeared in Nuremberg in 1828 with a letter purporting to be written by a laborer stating that the boy had been given into his custody in 1812. The boy had been kept in close confinement for many years, never leaving his dark cell, never seeing the light or human beings until shortly before his release when a person came to his cell and taught him to speak and read a few words and to write his name. When he arrived at Nuremberg his speech corresponded to that of a child of about 2 years. The few words which he could say he repeated over and over again without seeming to understand their meanings. His gait was unsteady and like that of a child who was just learning walk.

The boy's education was undertaken by Professor Daumer. He responded well to training, making rapid strides, and became a clerk in the office of the president of the court of appeals. He died five years after his appearance in Nuremberg from a wound, mysteriously inflicted either by himself or by another.

According to one theory Caspar Hauser was the crown-prince of Baden. He had been kidnapped by emissaries of the Countess of Hochberg, morganatic wife of the grand-duke, in order to secure the succession for her offspring. This theory was warmly contested by Andrew Lang who was inclined to regard Caspar Hauser as a humbug.

Other examples of isolation amentia have been recently described by Gesell in his book "Wolf Child and Human Child" in which he details the behavior of two children reared by wolves in India. One of the children, a girl, who came to be called Kamala, was adopted by a wolf when she was a few months of age. She lived with a pack of wolves until she was about 8 years old when she was rescued and placed under the care of the Reverend and Mrs. J. A. L. Singh, missionaries at Midnapore.

At the time of her rescue she walked on all fours and used her hands as paws. She seized her food in her mouth and lapped water. She had developed a passion

for raw meats and for carrion as well. She had adopted the way of living of the wolf pack, idling, dozing and sleeping in the den during the day, going forth at night in search of food.

Through patient, sympathetic training Kamala was weaned from her wolf ways. She learned to walk upright but never to run. She came to prefer humans to animals, daylight to darkness and took considerable pride in her clothes. She learned to speak in small sentences and to understand much of what was said to her. She died in 1929 at the age of 17 years.

Epilepsy.—Epilepsy and mental deficiency not infrequently occur together and this is to be expected since many epileptics show gross defects of the brain. Mental deficiency is more common in children with severe and frequent convulsions but it may follow petit mal attacks. Some children continue to have convulsions for years without any evidence of deterioration and this is particularly apt to be the case where the attacks are infrequent. Epileptic impairment is characterized by a gradual slowing of mental activity with a prolongation of the reaction time. There may be recovery of intellectual ability after the attacks cease. In judging the mentality of epileptic children inadequate educational opportunities due to exclusion from school should be taken into account.

Home Environment.—The majority of feebleminded children come from inferior homes. It appears that parents of low intelligence not only produce children of low intelligence but they also maintain inferior homes.

Sex.—There is no striking difference in the number of feebleminded by sex, but boys are more often sent to institutions than girls as they are unable to compete successfully as wage earners, while girls are more willingly supported in the home or married off by their families.

Race and Nationality.—In the United States, with the tests at present available, proportionately more Negroes and Indians fall into the defective groups than whites. Whether this is due to racial inferiority, to poor environment or to other selective factors, is not known.

Symptomatology.—Mental defectives are divided into three groups, depending on the severity of the mental defect. *Morons* may be expected in adult life to attain a maturity level of 8 to 10 years (40 to 70 I.Q.); *imbeciles* 3 to 7 years (20 to 40 I.Q.); while *idiots* rarely attain the mentality of a 2 years old child (I.Q. below 20).

Although there is some difference of opinion on the subject it is generally held that the mental development of the individual child retains its position in relation to the general group throughout the growth periods; that is, a child with an I.Q. of 70 at 5 years will have an I.Q. close to this figure on retests at later ages. Kuhlman has found that, in mental defectives, the I.Q. becomes slightly lower as time goes on but the mental age continues to increase until adulthood is reached.

Mentally defective children learn in the same way as normal children of the same mental age but at a slower rate and so remain longer at the same mental level. Although the mental age of a feebleminded child and a normal child may be the same, the mental defective, through longer life and greater experience, has usually acquired certain habits and information which the younger child does not possess.

The defective child in the city has a more difficult time than the rural child of similar I.Q. The competition at school and in work is greater in the city and hence proportionately more urban children are in institutions for the feebleminded than rural children. In the small town the backward child is known to the inhabitants and concessions are made for his short-comings so that he can manage to get along.

At the moron level there appears to be little appreciation of sexual morality. Pregnancy is common unless the girl is carefully supervised and it has been found that almost 50 per cent of unmarried mothers are definitely feebleminded.

Mentally defective children present no constant personality pattern. Some are quiet, docile and easily controlled. Those with very low intelligence are apt to be abnormally inert and placid during their entire childhood. It is more usual, however, for feebleminded children to be restless, unstable, aggressive and unable to concentrate. They are often hypermotile and lack control over their emotions. As they grow older they develop special motor tricks and habits, some of which are very annoying. Most common among these are blinking, rhythmic movements of the body, head nodding, grimacing and shoulder shrugging. There may also be unpleasant voluntary actions which are indulged in with great persistence such as pica or dirt eating, nail biting, nose picking and eating of the contents.

Behavior problems among the mentally defective are common due to their inability to adjust to the usual routine, to their difficulty in school and to the lack of understanding they receive from society. More mental defectives, proportionately, are delinquent than normal children but low intelligence as a cause of delinquency has been greatly overstressed. One must not forget that children of lower intelligence are more likely to be caught and thus more frequently are brought to the children's courts and sent to reform schools.

Desire to possess is a characteristic common in defectives and may lead to stealing. This is the offense most frequently committed by the feebleminded. Submission to individuals who are more powerful, and ready suggestibility are personality traits frequently present. This often makes the child the tool or dupe of more intelligent children.

Sex crimes and incest are more frequent among the feebleminded than among those of normal intelligence.

Though many defective children are well grown they are, as a group, below average in height and weight. They are inferior to average children in motor control but the decrease is not as great as in intelligence. Awkwardness increases with the severity of the mental defect. Except in the case of the very lowest defectives sensory capacity is normal. The facial expression is often vacant and foolish and even morons may frequently be recognized in this way. Many show stigmata of degeneracy such as cranial deformities, anomalies of the eye, deformities of the external ears, web-fingers, polydactilism, but these are not necessarily diagnostic of mental deficiency.

The forms of feeblemindedness secondary to gross congenital defects, brain trauma, glandular deficiency or other physical causes have definite characteristics due to the physical condition but not necessarily diagnostic of the degree of mental deficiency.

The type of play that feebleminded children indulge in corresponds roughly with mental age. Enjoyment of play in water and sand is characteristic.

Mental deficiency is difficult to recognize during infancy unless associated with anatomical defects like those of mongolism, cretinism, hydrocephalus, spastic diplegia. As a rule feebleminded infants are quiet and uninterested in their environment. They rarely cry or smile. Motor development is retarded and efforts at speech (babbling) are few and feeble. Inability to support the head, to sit up, to stand, to smile, to hold and handle objects at the proper time are valuable indices of mental defect.

Neglected infants are often temporarily retarded and this factor should always be considered before a diagnosis of mental deficiency is made in an infant or young child. Motor retardation without mental deficiency is seen occasionally in obese infants, in infants who have suffered severe illness, in some children with mild degrees of hydrocephalus and where there is disease of the motor apparatus, *e.g.*, amyotonia congenita, basilar ganglion lesions.

Idiot-savant is the term applied to a mental defective who has a peculiar ability far beyond the accomplishment of normal individuals. In all mental defectives some unevenness of abilities is found and this may, in some instances, be striking, but the special capacity exhibited by idiot-savants is extremely rare. Though these persons are usually spoken of as idiots, they are rarely of the lowest grade of mental defect. They are almost invariably of the male sex.

The special talents exhibited by mental defectives vary widely. In some instances the special talent consists of an extraordinary development of the special senses. Mental defectives have been described in whom the sense of smell was so highly developed that they could select their own and their companion's clothes. Special development of the visual sense has also been observed and several of the drawing and mechanical geniuses have shown remarkable capacity for detecting slight differences of form and size. Others have shown a highly developed sense of hearing.

In another group of patients the motor functions are especially developed, and there may be extraordinary dexterity in the performance of mechanical work. There are also cases in which the ability to draw is developed to a remarkable degree. A famous example of special drawing talent is the celebrated Gottfried Mind, a cretin born in Berne, Switzerland, in 1768, sometimes referred to as the "Cat's Raphael." He was an imbecile of grotesque appearance, unable to learn to read or write and without any understanding of money. Despite his deficiencies, however, his drawings of animals and of children were so lifelike and so skillfully executed that he achieved a certain amount of fame as an artist.

There are also mental defectives whose special gift is memory. Barr has described an imbecile with epilepsy who, though unable to learn to read or write, had an extraordinary capacity for repeating everything said to him whether in his own language or in foreign language. We observed a child of 4 years with periodic convulsions who had this same talent. Both his special talent and his convulsions disappeared at the age of 6 years and he grew up to normal adulthood. Defectives have been described who have an extraordinary memory for historical dates and for poetry.

An extraordinary ability to memorize tunes accurately has been observed in mental defectives. Lightning calculators have also been described.

A special ability which has been observed a number of times among the feebleminded is the capacity to name the day of the week if given a date within a radius of several years. We observed a boy, Barney, with this unusual gift some years ago. He was 27 years old and his I.Q. (not tested) was about 40. His task, in the institution where he lived, was to carry garbage from the kitchen to a dump about 50 feet away. If he was stopped on the way he was unable to tell whether he was going to or coming from the dump. His speech was mumbled and indistinct and his gait awkward.

Barney was able to tell the day of the week on which any date fell or would fall within about 3 years. He could also tell the dates on which days of the week fell in any month. For example, he could tell that the Mondays in September would fall on the first, eighth, the fifteenth, etc. But he was unable to add one and seven. His answers were always given promptly and without hesitation. When asked how he had acquired his gift he answered that he studied the calendar. He was, however, unable to use a calendar nor did he recognize it as such. He was also unable to read. No information was available as to the age when his special ability was acquired.

Witzman has described an idiot-savant, a high grade moron, who was able to name week days accurately for given dates over a period of 100 years.

Prognosis.—All data at present available indicate that no amount of education or training can increase the innate capacity of the child. It should be made clear to the parents or guardian that there is no known way of curing feeblemindedness and that the child will never attain a mental status equal to that of normal children of his own age.

At the same time the parent can be assured that the child, unless of an extremely low intelligence, will continue to develop intellectually until maturity and, that he should continue to receive training so that he will have a better chance to get along in society.

The I.Q. is only one factor in the prediction of economic success. In 1914, 166 feebleminded children were examined. They were divided into two groups of average ages 11 and 12 years, respectively, and average I.Q.'s of 61 and 72. It was prophesied at that time that these children were liable "to recruit the ranks of vagrancy, alcoholism, prostitution, delinquency and chronic dependence, reproducing without care and handing over to others their defective offspring." Quite a different picture was found 17 years later in 1931 when 122 of these individuals, 50 girls and 72 boys, were reexamined. Only 4 had illegitimate children, 8 had a history of chronic alcoholism, 5 had court records after they reached adulthood and 9 were being assisted by relief agencies before the depression. Ninety-five families out of 122 were financially independent and 36 families owned or were buying their own homes. These men and women were employed almost entirely as domestic workers and as unskilled laborers in factories, railroad and ship yards. Ten were skilled laborers and 6 were clerks. Forty individuals were available for retesting and in all instances the mental age had remained practically unchanged during the 17-year interval. Fifty of their children, all of

school age, were given intelligence tests. Of these 3 had an I.Q. under 70, 4 an I.Q. over 120 and the rest gave I.Q.'s in the range 90 to 110. This record was far better than had been anticipated. In all probability the favorable outcome is related to the prosperous years of 1918 to 1930 during which period the children became adult.

Management.—The management of feebleminded children depends on the degree of defect. Little can be done for idiots. They should be given adequate medical care either at home or in an institution. Where the condition is recognized in infancy, as in the case of Mongolian idiots, efforts should be made to keep mother and infant apart as much as possible. Breast feeding should be discouraged so the mother will not become too attached to the defective child.

At I.Q. levels between 20 and 40 the child may be taught specific habits appropriate to his intelligence. Even the imbecile can learn cleanliness, proper ways of feeding himself, obedience and the performance of simple tasks, though he is apt to need constant reminding. He can learn his name and perhaps where he lives. Institutional care is to be recommended in most instances.

Children with I.Q. between 40 and 60 may be taught simple, useful tasks such as bed-making, dusting and setting the table. They do poorly in school and, where possible, should be put in ungraded classes. Special attention should be paid to instilling in them ideas of neatness and cleanliness which will make it possible for them to live more comfortably and happily at home. They need strict supervision throughout life but, with training, may become self-supporting as unskilled workers.

Careful supervision is necessary for children with I.Q. between 60 and 70. These constitute the majority of the feebleminded and present the greatest problem.

Every opportunity should be extended to the child to utilize his capacity to learn, but his mental limitations should be made clear to the parents so that they will not make demands which are beyond his capacity. A special effort should be made to prevent overprotection during early childhood. When the child attends school, the parents should be repeatedly warned against the ill-effects of demanding from the child more than he is capable of achieving. He should be drilled in the handling of money, understanding time, day of the week, month, year. Body cleanliness, neatness of dress and the social amenities should be emphasized since a well-appearing, well-mannered individual will always make a better impression than a crude, untidy one.

Physical defects should be corrected. Speech training is of particular value. Correction of awkward gait is usually possible and adds considerably to the presentability of the child. Strabismus should be corrected by exercises and glasses.

Surgical treatment and glandular therapy are without value except in a very limited number of children and even then the results are usually far from perfect. When the parents can be convinced of this they will stop shopping for treatment and will try to formulate a plan of guidance and care which will benefit the child.

Families with a mentally defective child will do well to live in a rural area where competition for the child will not be so great and where he is more likely to be accepted and helped by the community.

Teaching at the level at which the defective may be expected to learn is the most important factor in the management of the moron. Contrary to current opinion they do better when educated with their own group. They can not do their best with normal children because they feel inferior. They should be under the guidance of teachers who have had special training. They may be expected to master school work corresponding to their mental age. They will profit most from instruction in manual fields and where sensory capacities are useful. They should be encouraged in any special skill or interest which they may have.

If they are below the level at which they may be expected to exert self-control, protection and supervision are essential either in the home or an institution. Adolescent morons especially must be guarded against pregnancy and illegal sex acts. Reproduction among the feebleminded should be discouraged as feebleminded offspring are likely to result.

Feebleminded children are just as susceptible to kindness, encouragement and praise as other children and much can be done by winning their confidence and affection. Even with dull children self-criticism and self-reproach occur at puberty and must be carefully handled by the parent.

Institutional Care.—It is not necessary that all mental defectives be segregated and, as the cost to the community is great, selection should be made with care. Idiots, in most instances, should be institutionalized. Segregation is advisable where the defective child interferes with normal family relationships. The mother may become unduly attached to him to the exclusion of the normal siblings and she may refuse to have more children because she feels that he needs all her attention. Often the siblings are ashamed and refuse to have guests in the home. Placement in an institution is also to be recommended where the defective child shows antisocial behavior.

Segregation accomplishes three things: It protects the family unit, it protects society against the easily misled defective, and it is a method of training the individual to occupy a place in society.

Drug Therapy.—Benzedrine is of no value in the treatment of defectives. Belladonna may be of some use in mental deficiency following encephalitis. The dose should be increased up to tolerance and may be kept just below this point for months if beneficial results are obtained. Bulgarian belladona is said to be more effective than the usual variety.

Thyroid is of benefit in some defectives and is worthy of trial. An initial dose of one-half grain (30 mg.) per day of desiccated thyroid may be given and the dosage increased by half-grain amounts every 3 weeks until tolerance is reached.

Vocation.—Louttit gives a list of occupations suitable for individuals with intelligence quotients below 50. Certainly all individuals of the specified mental ages could not successfully accomplish this work but it is encouraging to know that certain ones have been able to hold these positions for one year or more.

MENTAL AGE, 5 YEARS

Boys—Handle freight, cinders or garbage.
Brush making, net making, rope braiding.
Garden work, stable work, scrubbing floors.

Girls—Various kinds of domestic work under supervision.
Simple sewing in following pattern.

MENTAL AGE, 6 YEARS

Boys—Laundry, farm or dairy work under supervision.
Common laborer, bricklayers' assistant.
Girls—Simple laundry work.
Knitting, rug weaving, operating small punch press.

MENTAL AGE, 7 YEARS

Boys—Driving team or truck or plow.
Simple carpentry, rough painting.
Girls—Hand and machine sewing—hemstitching.
Case sausages, pack tobacco, bottle vinegar, etc.
Housework.

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CHAPTER XIII

SPECIAL TYPES OF MENTAL DEFICIENCY

Microcephalic Idiocy. Macrocephaly. Congenital Spastic Diplegia. Mongolian Idiocy. Cretinism and Hypothyroidism. Naevoid Amentia. Tuberous Sclerosis.

MICROCEPHALIC IDIOCY

Though the head is frequently small in severely defective children, use of the term microcephalic idiocy should be limited to individuals in whom microcephalus is associated with a characteristic configuration of the skull. The forehead is receding due to failure of the frontal lobes to develop normally and the fontanels are closed at birth or fuse shortly thereafter. There is flattening of the occipital region and hypoplasia of the lower jaw. The nose is aquiline. The largest circumference of the skull is usually less than 17 inches (42.5 cm.).

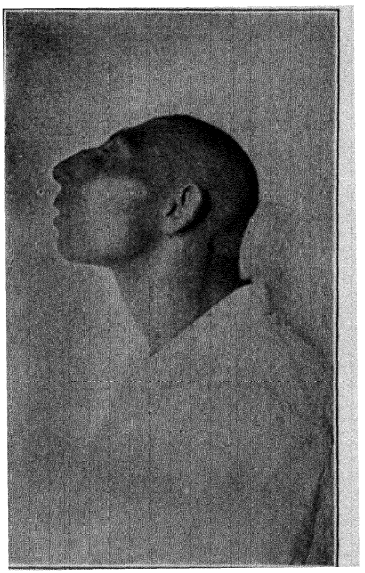

FIG. 15.—MICROCEPHALIC IDIOT.

Twenty-five-year-old male with I.Q. of about 30. Had two brothers and two sisters, all microcephalic idiots (Reproduced by permission from photograph supplied by Dr. Charles S. Bernstein in Paterson, *Physique and Intellect*, D. Appleton-Century Company, Publishers).

The scalp is generally thick and redundant and shows great folds running antero-posteriorly, a condition found only in this group. The hair is very coarse and wiry and grows low on the forehead. Smallness of stature is the rule. Few microcephalics grow to more than 5 feet (150 cm.). The trunk is short and the extremities relatively long.

The mentality varies within wide limits from idiocy to moronity, the majority falling into the imbecile group. Microcephalic idiots are quick in their movements and often gifted with the faculty of mimicry. On the whole they are affectionate and well behaved.

A considerable portion have difficulty in walking and many are subject to periodic convulsions.

Etiology.—Microcepahlic idiocy is apparently due to a germ plasm defect. The condition may occur in several members of the same family; furthermore, near relatives who are otherwise normal not infrequently show body build changes similar to those seen in the patients.

Microcephalic idiocy is one of the more common defects resulting from exposure of the pregnant mother to irradiation with x-ray or radium.

There is no reason to believe that the small size of the brain is due to early closure of the fontanels. It seems rather that the small skull is dependent on failure of the brain to grow.

There is no satisfactory treatment.

MACROCEPHALY

Hypertrophic amentia, macrocephaly or megalencephaly, is a rare condition in which mental deficiency is associated with enlargement of the head. The brain is large and heavy due to increase of neuroglia and the convolutions show an extraordinarily complex pattern. The cranial enlargement differs from that seen in hydrocephalus. The head is square rather than round and there may be well marked frontal eminences. The head is not as high as in hydrocephalus and there is no bulging of the fontanels or sutures. Encephalography shows the ventricles of normal size and shape.

Headache and convulsions are common. There may be generalized muscular weakness, unsteady gait and tremor on exertion. The movements are slow and clumsy and speech is slow and difficult. The degree of mental deficiency varies widely from slight defect to idiocy and tends to be greater when convulsions are frequent. Emotional disturbances such as rage and violence are occasionally seen though many of these people are quite good tempered.

There is no treatment.

CONGENITAL SPASTIC DIPLEGIA

Congenital spastic diplegia is usually associated with severe mental retardation. Though this condition is ordinarily permanent there occasionally takes place striking improvement and one is, at times, surprised at the degree of mental development which these children attain. The mental impairment is often associated with emotional disturbances.

Congenital spastic diplegia is to be distinguished from basilar ganglion disease. In the latter condition mental development is normal unless cortical involvement is also present. The children are often considered subnormal mentally because of the motor difficulty and the interference with the muscles of speech. Basilar ganglion disease can be readily recognized even in infancy by the athetoid movements, the alternating muscular hypertonia and hypotonia and the absence of convulsions and paralysis. Such children, despite the lack of experience with the environment which the normal child obtains from crawling, walking, etc., attain normal or even superior mental development if they receive proper training.

MONGOLIAN IDIOCY

Mongolism is not uncommon, occurring about once in every 1000 births. The condition is seen in all races including the Chinese, Japanese and Negro.

It is somewhat more frequent in boys than in girls and is seen in all socio-economic groups. Occasionally more than one mongol may be born in a family and instances have been reported where mongolian idiots occurred in several generations but these are extremely rare. A number of binovular twins have been reported where one child was mongolian, the other normal. A few instances have been described in which both twins were mongols. In each of these the twins were of the same sex and it is probable that they were uniovular.

Mongolian idiots are born most commonly to middle-aged mothers after many pregnancies but they may be born to young mothers who appear quite healthy. There is no relation between paternal age and mongolism. At autopsy the brain is small with a simple convolution pattern and shallow sulci. Microscopic examination shows defective neuronic development without sclerosis. The appearance is not distinctive and does not differ from that seen in other children with severe mental defect.

The characteristic symptoms are four, the peculiar facial appearance, mental retardation, hypotonia, and congenital heart disease. The facies is pathognomonic and is the basis for diagnosis. Hypotonia is rarely absent. Congenital heart disease is present in about a third of the cases. It is of interest that some mentally normal children with congenital heart disease have a mongoloid facies. Congenital heart disease with hypotonia has been described.

Mongolian idiocy is recognizable at birth. The face is flat and broad, the eyes slant upward and outward and bilateral epicanthal folds are common. Abnormalities of the eye are frequent. Epicanthus is seen in the majority of cases, particularly during infancy. Internal strabismus is also common. Nystagmus is not uncommon during infancy and tends to disappear later on. Cataract is not infrequent and the irises are often speckled. Conjunctivitis, blepharitis and ectropion are frequent. The lips are thickened and cracked, the angles of the mouth droop and the lower jaw is prominent. The tongue is large and rough with transverse fissures and is often pointed, the voice is hoarse. The head is small and flat. The skin is loose and soft. The little fingers are unusually short and curved with the convexity toward the ulnar side. The feet often show a wide distance between the first and second toes and there may be a deep cleft running from this gap on to the sole.

The genitalia are small and menstruation is usually delayed. Instances in which mongol women have given birth to children have been reported but the condition of the offspring is not described.

As infants, mongols are quiet and placid. Development is greatly retarded and many do not walk or talk until they are 6 years old or more. They become more active and interested during childhood and often show a great fondness for music. As a rule they are of cheerful disposition and only rarely have attacks of irritability.

In most instances the mental defect is severe and may be classed as low grade imbecile or idiot. Occasionally, however, mongols achieve a low grade moron status and they may learn to read and write.

Mongolians grow fairly well during infancy but in later childhood they are retarded in height, the body proportions remaining normal. They usually suc-

cumb to pulmonary infections during childhood but occasionally they survive to middle age.

There is no specific treatment.

CRETINISM AND HYPOTHYROIDISM

By cretinism is meant congenital absence of active thyroid tissue. It occurs in two forms, sporadic and endemic.

Sporadic cretinism is not uncommon. The etiology is unknown. The child appears normal at birth and symptoms do not ordinarily begin to appear until after 6 months of age. Occasionally the condition can be recognized earlier and we have seen fully developed cretinism in a 5 months old infant. Failure to develop symptoms during the early months of life is due, presumably, to the transplacental passage of thyroid hormone from mother to fetus, and possibly to the transfer of thyroid hormone to the infant through the breast milk. In occasional instances symptoms do not appear until the second or even the third year of life.

Dwarfing is a prominent feature and adult cretins may never attain the height of a 5 year old child. The body proportions are infantile with a relatively large, broad head, wide face, short neck, long trunk, short extremities, broad palms and short fingers. The disproportion between the length of the trunk and the length of the extremities is not as marked as in achondroplasia.

Like infants, also, the features are soft and rounded, the nose is broad, the nasal bridge flattened and the eyes widely separated. The tongue is large and often protrudes between the lips.

The skin is yellowish and pale. It is soft, loose and velvety to the touch; and there may be myxedematous swelling of the eyelids, back of the neck, supraclavicular and axillary regions. Hair on the head is scant and coarse. The eyebrow hair is also sparse, particularly in the outer halves. A dry, scaly eczema is not uncommon.

The abdomen is prominent and there is umbilical hernia. The pulse is slow and the temperature subnormal. There may be no febrile reaction to infection. There is usually constipation. The anterior fontanel remains open for years, in some instances up to adult life. The voice is often hoarse due to myxedematous infiltration of the larynx. The thyroid is not palpable.

Accompanying the retardation in physical development, there is retardation in motor and mental development. Cretins are delayed in sitting up, standing, walking and talking. They are slow and deliberate in their movements. Mentality is low and untreated cretins are usually low grade imbeciles. They are ordinarily good natured and placid. The sex organs remain small and undeveloped and menstruation is delayed and often absent.

The blood shows a reduction in the number of red blood cells and hemoglobin. The total serum cholesterol is generally elevated, usually to 300 or 400 mg. per 100 cc. and even higher, the normal range being between 100 and 300 mg. This change is not pathognomonic of cretinism and is found in other conditions, notably liver disease, nephrosis and diabetes. The blood iodin is diminished.

The basal metabolic rate is greatly reduced. The serum phosphatase is low, below 4.5 Bodansky units, and rises to normal after thyroid medication.

Retardation in ossification of the bony centers is a striking feature. It is found only rarely in other conditions, such as marked undernutrition, certain disturbances of the pituitary gland and in certain families. The retardation is extreme and ossification of the carpal centers, which ordinarily begins during the first six months of postnatal life, may not be evident in the x-ray until the child is in his teens. Those centers which are present are frequently malformed and present a porous, stippled or fragmented appearance, referred to by Reilly and Smyth as cretinoid epiphyseal dysplasia. Dentition is greatly retarded and when the teeth appear they are often irregularly placed and defective, decaying readily.

Diagnosis.—The diagnosis of cretinism is usually simple since the clinical features such as dwarfing, the facies and the expression, the large protruding tongue, the sallow, velvety skin, coarse, sparse hair, the slow, deliberate movements, the large abdomen and umbilical hernia, slow pulse and low temperature are so characteristic. Delay in dentition, retardation of ossification of the bony centers and elevation of the serum cholesterol are of great diagnostic value. Difficulties arise only during infancy or where treatment has been given.

Cretinism is most commonly confused with mongolism and with achondroplasia. Mongolism is ordinarily recognizable at birth, the facies is different from that in cretinism, there is hypotonia and often congenital cardiac disease. Dentition and ossification of the bony centers proceed normally.

In achondroplasia the disproportion between the trunk and the length of the extremities is much more marked than in cretinism. The achondroplastic is mentally alert and shows other features such as the large head, lordosis, and the short, distorted extremities. The two conditions may occur together.

Endemic cretinism occurs in many parts of the world. It is seen in goitrous regions in Switzerland and adjacent countries, in the Great Lakes regions in North America, in the Himalayas of India and elsewhere. It is due to a deficiency of iodine in the water and soil. The condition differs clinically from sporadic cretinism by the presence of a colloid goiter.

In **hypothyroidism** there is a reduction but not complete absence of the amount of functioning thyroid tissue. The symptoms are similar to those of cretinism but they are milder and appear later.

Dwarfing is a prominent symptom but it may not be striking if the clinical picture does not become manifest until later childhood after the child has attained a fairly normal height. The body proportions are infantile as in cretinism. The intelligence is generally reduced but it may be within normal limits if hypothyroidism does not occur until later. Mental slugglishness and physical inactivity are present to a greater or lesser degree, in all children with hypothyroidism even when the I.Q. is normal.

Dental development is retarded and those teeth which erupt are defective in structure and decay rapidly. When hypothyroidism develops in early childhood there is retardation in osseous development and those osseous centers which are present frequently show the stippled, porous, fluffy or fragmented appearance seen in cretins. Where hypothyroidism develops after the eighth year, when the

more mature characteristics of the skeleton have been attained, abnormalities in osseous development may be mild or absent. Hypothyroid epiphyseal dysplasia affects the head of the femur frequently and gives rise to a picture resembling that of Perthes' disease.

According to Wilkins and Fleischmann, a pale, grayish color of the cheeks and lips and a circulatory mottling of the skin are seen with such regularity in children with hypothyroidism that they hesitate to make this diagnosis in a child with bright, ruddy cheeks and lips.

Of the laboratory tests, the level of serum cholesterol is the most valuable. Whereas the normal level in children is between 100 and 300 mg. per 100 cc., in hypothyroidism the values are usually above 250 mg. and occasionally over 600 mg. Values below 200 mg., however, are occasionally seen. The serum cholesterol is more labile in hypothyroidism than normally and fluctuations of 200 mg. may occur if examinations are made from time to time. In normal children the fluctuations are under 100 mg. A single low serum cholesterol, therefore, does not exclude the diagnosis of hypothyroidism and repeated observations should be made.

Of diagnostic value is the response of the serum cholesterol to thyroid administration. Wilkins, Fleischmann and Block found that, in the hypothyroid child, a single intramuscular injection of 2 or 5 mg. of thyroxin is followed, within 3 to 6 days, by a marked reduction in the serum cholesterol which persists for 30 to 70 days, usually 40 days. There then follows a rise in the serum cholesterol to the previous high level. In the normal child there is only a slight and transient response to thyroxin, usually lasting no longer than 10 days.

Following discontinuance of thyroid therapy the serum cholesterol rises to high levels within a period of 8 to 12 weeks. A similar rise does not occur in the normal child if thyroid is given and then discontinued. This observation is useful as an aid in recognizing the hypothyroid state in children who are already receiving thyroid therapy when first seen.

Prognosis.—Untreated cretins may live a normal span of years. There is no tendency toward spontaneous improvement. Considerable benefit can be expected from thyroid therapy. The alteration in physical appearance is particularly striking. The sallowness and myxedematous tumors disappear, the skin changes, the tongue recedes, the facial expression brightens and the child grows in stature. The temperature rises to normal, the pulse quickens, the blood cholesterol returns to normal and ossification of the bony centers takes place rapidly.

In some instances there is a similarly striking improvement in the mental status and this is more likely to occur where treatment is started early in life. In general, however, the child remains definitely retarded, often markedly so.

Treatment consists of the administration of a thyroid preparation. Desiccated thyroid gland is the preparation most commonly used. Since commercial brands vary widely in potency, it is preferable to use the official U.S.P preparation which contains 0.2 mg. thyroxin per grain (65 mg.).

Some children with thyroid deficiency are highly sensitive to thyroid medication and they may react with diarrhea, irritability, tachycardia, profuse sweating

and weight loss. The initial dose should therefore be small. A quarter of a grain (16 mg.) a day is ordinarily a safe initial dose but we have seen an infant develop diarrhea and weight loss whenever an eighth of a grain (8 mg.) was given and it was necessary to begin with a thirtieth of a grain (2 mg.) a day. The dosage should be increased at 3 weekly intervals, by one-half grain of thyroid (32 mg.) per day until tolerance, as measured by the appearance of toxic symptoms, is reached. Maximal doses should be given and the effect on height and osseous development checked frequently. Minor toxic symptoms such as weight loss, sweating, slight irritability and tachycardia may be disregarded. Most cretins require from 2 to 3 grains (130 to 195 mg.) of U.S.P. thyroid a day, rarely more. Toxic symptoms which indicate that tolerance has been reached are continued rapid pulse and weight loss, diarrhea, excessive irritability and hypermotility, pyrexia, cramps and vomiting. A single daily dose is as efficacious as divided doses. Thyroxin has no advantage over desiccated thyroid.

Treatment must be continuous throughout life. If treatment is omitted even for a few weeks symptoms reappear.

NAEVOID AMENTIA

Naevoid amentia is rare. The condition is characterized by severe mental deficiency, extensive venous angiomota of the port-wine type about the face and body, convulsions and hemiplegia. The degree of mental defect is severe and death usually takes place early in life. Angioma of the pia is present and this can usually be recognized roentgenologically by the calcification of the vessels. A bruit is sometimes heard over the involved area. There is no treatment.

TUBEROUS SCLEROSIS (EPILOIA)

Tuberous sclerosis is a rare disease characterized by sclerotic tumors in the brain, skin and viscera. The condition is apparently a manifestation of a germ plasm defect since several cases may occur in the same family and in several generations. Sporadic cases, however, are not infrequent.

The condition may be present at birth or symptoms may not appear until 9 or 10 years. There is usually delay in sitting up, walking and talking and many children never learn to do these properly. Screaming fits during infancy often occur. The principal symptoms are mental deficiency, convulsions and skin lesions (adenoma sebaceum).

The convulsions start early in life, usually before the end of the second year. At first there are occasional minor attacks without loss of consciousness but these quickly give way to severe and more frequent major attacks, which are often regularly spaced. Mental and emotional changes become apparent at about the fifth or sixth year. There is apathy, lack of interest and mental deterioration, which progresses to imbecility or even idiocy. Psychotic symptoms may develop. In rare instances normal mentality is retained.

Adenoma sebaceum makes its appearance at about 4 or 5 years. The lesions start as pale pink spots in the nasolabial folds. They spread over the cheeks and

nose to form a symmetrical pattern and are sometimes present on the forehead and chin. They are usually bright red in color but they may be brownish or yellowish. They are raised and vary in size from 2 to 4 mm. in diameter. They consist mainly of sebaceous glands embedded in connective tissues which are well supplied with capillaries.

Other types of skin lesions may also be present. Of these the most frequent are collections of small, flat fibromata, usually on the back or other parts of the trunk. Another lesion which is seen not infrequently is a "shagreen patch," a raised thickened area of skin, usually over the lumbosacral region. There may also be café au lait spots, naevi, vitiligo, pigmented warts, pedunculated polyps and subcutaneous nodules. Some of the skin lesions resemble those found in von Recklinghausen's disease, to which tuberous sclerosis may be related.

Aside from mental deterioration and epilepsy neurologic manifestations are not prominent. Muscle rigidity may be present in older children but in young children muscle tonus is unchanged or reduced. There is usually restlessness and intricate movements of the hands are often observed. The speech mechanism is generally affected and there may be mutism. Local pareses with spasticity or hypotonia is sometimes present but paralyses are rare. The eyegrounds are usually normal but there may be papilledema due to the presence of intraventricular tumor with obstruction of the ventricular system. Optic atrophy may also occur. Retinal tumors, which appear as small, round, flat growths, are sometimes seen. Arising from the optic nerve there may be mushroom-like growths which often undergo degeneration with rupture of the cysts and hemorrhage. Congenital cataracts have been described as well as a great variety of other developmental anomalies.

Pathology.—Scattered throughout the brain are numerous, yellowish white, very firm nodules, varying from 5 to 30 mm. in diameter. The nodules occur mainly in the cortex and walls of the lateral ventricles but they have been observed in the cerebellum, medulla and cord. The older nodules may undergo degeneration. The tumors in the lateral ventricles usually originate in the optic thalami.

The nodules consist of glial tissue arranged in bizarre bands and whorls and contain characteristic giant cells of a peculiar type. Under the microscope the nodules are not sharply demarcated but are seen to merge gradually into the surrounding tissue. The architecture of the adjacent brain structure is greatly distorted.

In addition to the changes in the brain, examination often shows tumors in one or more organs. The kidney and heart are most frequently affected but tumors have been found in the liver, spleen, lungs, intestines, thyroid, thymus and retina. Kidney tumors are usually bilateral and of a mixed embryonal type; cardiac tumors are small, multiple rhabdomyomata. The visceral tumors are usually symptomless.

Diagnosis.—The diagnosis should be suspected whenever convulsions are associated with mental deterioration. When the characteristic skin lesions are present the diagnosis can usually be made readily but the condition may occur without adenoma sebaceum. Diagnostic aids are the family history, the presence

of tumors in the retina, and ventriculography which may show the tumors projecting into the ventricles. X-ray of the kidneys may also show changes.

Prognosis is poor. Death usually occurs before maturity.

Treatment is, in general, ineffective. Where there is increased intracranial pressure or focal signs pointing to a localized lesion operation may be attempted.

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CHAPTER XIV

LATERAL DOMINANCE—LEFT-HANDEDNESS

Maturation of Lateral Dominance. Handedness, Frequency, Disadvantages of Conversion, Training of Left-Handed Child, Methods of Recognizing Left-Handedness. Eyedness. Footedness. Intergrades. Disturbances Associated with Left-Handedness, Inferiority and Insecurity, Language Difficulty, School Difficulty.

Under normal circumstances the manual skills, the language functions (speaking, reading and writing) and, to some extent, sighting and pedal skills are controlled mainly by one side of the brain, the other side functioning in only a rudimentary manner. In right-handed persons the left hemisphere is dominant whereas in left-handed individuals the right hemisphere leads. This unilateral control is a special attribute of man. The preferential use of one side of the body is occasionally seen in animals, but it is poorly developed and can be readily altered.

It is important to remember that even in man unilateral cerebral dominance relates only to the language functions and to the more intricate manual and pedal skills and that the relation of the two hemispheres to one another is quite different for the simpler activities. Thus a lesion in the cerebral cortex on one side will give rise to a paralysis of voluntary motion on the opposite side and the same is true for the sensations of pain, temperature, touch and kinaesthesia. That left-handedness is hereditary is borne out by genetic studies and by the persistent appearance of left-handed individuals in all races despite efforts at training toward the right hand.

Recent observations indicate that unilateral dominance appears early in life. Giesecke studied the manual activity from birth through 17 months and found that, in individual infants, the movements of the hands were regularly more frequent on one or the other side and a differentiation could be detected shortly after birth. Furthermore, there was a positive relationship between the amount of spontaneous activity of the hands during early life and the preferential use of the hands in reaching for objects in later infancy indicating that these are related phenomena. Records of head turning and spontaneous movements of the legs also showed a lateral preference. There was evidence of changes in dominance for the individual child which took place at fairly definite age levels, notably during the seventh month and again at the ten months age level.

Handedness.—For clinical purposes a definite diagnosis of right- or left-handedness should not be made before eighteen months. Opinions differ as to the frequency of left-handedness. The difficulty in reaching accurate conclusions is due, first to the fact that many sinistrals are converted early in childhood, and

secondly to the presence of individuals who show no striking predilection for either hand. The most reliable figures are from 2 to 6 per cent of the population. Left-handedness is thought to be inherited as a mendelian recessive.

Once hand preference is definitely established no attempt should be made at conversion. Left-handedness has no serious disadvantages except that many implements, such as scissors, tools, chairs with arms for writing are made to be used with the right hand. In addition there are occasional social disadvantages. In choosing an occupation the left-handed individual should avoid certain machines made for right-handed workers such as those with pedals, wheels to turn, etc.

There are several reasons for not attempting to convert a child. The naturally left-handed child will usually be less successful with the right hand in such activities as writing, playing games of skill and using tools and this may cause him to feel inferior and dissatisfied with his achievement. The conversion may lead to confusion, as shown by the frequency of disturbances in the language functions, speaking, reading and writing. There may be hyperactivity and uncertainty.

The child should not only be allowed to develop his own natural handedness but he should be actively encouraged. Left-handed children are often permitted to use the preferred hand but do not receive the training accorded children who are right-handed although their need for training is actually greater since they must face a multitude of influences which tend to make them right-handed. Few children are so strongly left-handed that they are able to resist these influences entirely. In this extremely right-handed world, left-handed children need active help in order to assist them to realize their full potentialities. There is some reason to believe that the mirror form of writing, *i.e.,* from right to left, is the natural one for left-handed individuals and that the left-handed child must acquire an orientation and progress in writing opposite to that which is easiest for him. In addition, the writing paper is frequently put in front of him in the same position as for a right-handed child which forces him to adopt a cramped and awkward position. He should be aided also in acquiring the proper slant for his letters since most left-handed children prefer to slant the letters with the tops toward the left. Where conversion has already taken place, help is often necessary in relearning. If the child is young, before writing and reading habits have been acquired, better and more prompt success at retraining to the master hand may be expected than at a later age.

Occasionally conversion from right- to left-handedness takes place and difficulties may then arise similar to those of the converted sinistral. The most usual cause is injury to the right hand or arm, such as Erb's palsy, accidents or amputations. Rarely an overconscientious parent, seeing a young child use his left hand, may unduly encourage its use although the child may actually have a preference for the right hand. A few children develop some dexterity in the use of the left hand in imitation of a left-handed parent or nurse.

The diagnosis of handedness depends on the history and the examination. A history of left-handedness in a parent or sibling is of some value. One should inquire, both from the parent and the child, as to the latter's choice of hand

for use in such everyday practices as ball-throwing, batting, hammering, teeth-brushing, hair-combing, shoe-buttoning, etc. Of importance in the history is whether any attempts were made at conversion from left- to right-handedness and whether there was a delay in establishing a choice of the preferred hand. Left-handedness should be suspected where the child shows undue awkwardness.

Tests of current skills are also helpful for detecting the dominant hand. Throwing movements show the relative facility of use of the shoulder and upper arm muscles, while fitting pegs into holes and counting with the fingers permit a comparison of the skill of the fingers and hands. Observations should be made of the ease and grace displayed in carrying out these activities. There is no relation between the strength of arm and the master hand except where the muscles on the preferred side have been hypertrophied by excessive use.

Evidence of conversion from left-handedness may be obtained through study of the writing which may be difficultly legible and irregular with frequent reversals. Often the child can write more legibly with the right hand from right to left (mirror writing) even though there has been no previous training or practice. Again certain children can write better with the eyes closed than while they are watching the writing hand. In the converted sinistral fatigue after writing is apt to come unusually early and the effort of writing may detract from the content of the work.

Eyedness.—By this is meant the selection of the eye which is habitually used for sighting. The human eye is equipped with two seeing mechanisms, peripheral vision for the rapid scanning of a broad field, and central vision for more accurate and detailed reception. The peripheral visual fields are equipped like motor centers and unilateral lesions to the appropriate tracts give rise to hemianopsia. For central or macular vision both hemispheres act together as a unit and stimuli received by either eye are fused into a single impression. Cortical blindness results only when both hemispheres are injured. Though information regarding hearing is not as precise as that for vision it appears that a similar mechanism is operative and both hemispheres may serve interchangeably with each other.

It has been suggested that the sighting eye determines the master hand and that left-eyed individuals who are right-handed are converted sinistrals. Orton disagrees with this view and points out that this hypothesis fails to explain the occurrence of right-eyedness in some left-handed individuals. Moreover it has been observed that the same proportion of right- and left-handedness exists among the congenitally blind as among the seeing.

Since sighting is dependent on the skill of the extra-ocular muscles rather than on clarity of vision, defects in vision have little influence on the choice of the master eye unless the refractive error is considerable. The eye is less often subjected to training procedures than the hand, although many naturally right-eyed microscopists train themselves to use the left eye in order that the right eye may be free to control drawing or note-taking while looking into the microscope.

A number of tests for eyedness have been described. The simplest test and the one which gives fairly consistent results when repeated on different days is performed as follows: A hole about one-half inch in diameter is made in a stiff piece of paper. This is handed to the child and he is requested to look at the

examiner's finger or other object through the hole. The child will usually use the master eye for this purpose. The paper may be placed in the patient's right hand, then in the left hand and finally in both hands. Several trials should be made each time. In most instances this test will reveal a definite preference for one or the other eye. In some instances, however, the child will use the right eye when the paper is held in the right hand, the left eye when the paper is held in the left hand and will show indecision when the paper is placed in both hands, indicating that there is no strong eye preference.

Footedness, like eyedness, is much less likely to be influenced by training than handedness and hence the determination of footedness may be of some value. The preferred foot is used for kicking, starting up a flight of stairs, mounting a bicycle, etc. The chosen foot usually corresponds to the master hand but this finding is by no means constant.

INTERGRADES

There exists a graduated series from the strongly right-handed to the strongly left-handed with all degrees of ambidexterity in between; and the same relates to eyedness. A striking mixture of right and left dominance is seen in the combination of right-handedness with left-eyedness. There may also be greater skill with the large muscles of one shoulder as in ball-throwing and preference for the small muscles of the opposite hand as in writing. This is most commonly observed in converted sinistrals but it may occur where no attempt at conversion has been made. In other children there is no frank intermixture of right and left patterns but the child is able to use both sides equally well in many different activities.

A prominent feature of the group of intergrades is the marked variance in the response to various tests for lateral dominance. The child given the same tests repeatedly will respond in opposite ways on different days. The right eye will be preferred for sighting on one occasion and the left eye on the next. Another characteristic of the intergrade is an apparently spontaneous shift from left to right handedness. This may take place at various ages but most frequently between the ages of 1 and 3 and the ages of 6 and 8 which correspond to the two critical periods of language development.

Because of the gradation between the strongly right-handed and the strongly left-handed individuals it is obvious that the results of training procedures will be variable. Some children can be converted readily without their acquiring any apparent disturbances of associated functions while others strenuously resist efforts at conversion. In training the intergrade the attempt should be made to increase the skills in the hand which is most often preferred. When both hands seem to be used equally, preference should then be given to training for right handedness. It is not advisable to attempt to train a child to complete ambidexterity since such training is rarely if ever successful.

DISTURBANCES ASSOCIATED WITH LEFT-HANDEDNESS

Disturbances associated with left-handedness depend on the completeness of the left-handedness, on the attempts at conversion, on the attitude of the child toward his deviation and on the attitude of the parents, schoolmates and other persons toward him.

Children who are strongly left-handed and left-eyed usually resist conversion successfully. They suffer only as they find themselves different from other children. Children prefer to be like other members of their group and any difference is apt to be looked upon as unfavorable. A left-handed child is frequently teased and chided and may develop a feeling of inferiority. His clumsiness and awkwardness may increase his feeling of insecurity and various associated difficulties may result. In some instances there may be poor achievement in writing and other skills because of inadequate training.

Motor intergrades who are ambidextrous, showing no striking preference for one or the other hand, are not greatly affected by training procedures and language disturbances are rarely observed among them. In other intergrades, for example, those showing crossed handedness and eyedness, uncertainty may be a prominent symptom and stuttering is not unusual.

Many disturbances in language function appear to have their origin in a change in handedness. Commonest among these is stuttering, though reading difficulties, mirror-writing and reversals of letters and words are not unusual. These will be discussed at greater length under these headings. Emotional disturbances due to confusion and failure are frequently superimposed. This last fact must be taken into consideration in the treatment of converted sinistrals and of language disturbances.

A factor which may influence the effect of conversion is the age of the child. There are periods in the child's life which are critical for the development of the language functions and interference with the use of the preferred hand at these times seems especially prone to give rise to difficulties. These critical periods are during the second and third years of life when the child is learning to speak, and during the seventh year of life when he is learning to read and write.

Wisely, in his study of school children found that, whereas only 6 per cent of right-handed children were repeaters, 12 per cent of left-handed children and 15.8 per cent of those who had been converted from left- to right-handedness were repeaters. This shows significantly that left-handedness presents a definite school problem.

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CHAPTER XV

THE LANGUAGE FUNCTIONS—SPEECH

Neuromuscular Mechanisms Governing the Language Functions. Maturation of Speech. Factors Influencing Maturation of Speech. Disturbances of Speech. Effect of Aural Impairment, Deafness, Regional Deafness, Word-Deafness. Retardation of Speech. Lisping. Monotonous Voice. Indistinct Speech. Incessant Talking. Idioglossia. Stuttering.

Normal language functioning depends on a sensory and a motor component and on a complex system of coordinating centers in the brain. The sensory process consists of comprehending the spoken and written word; the motor process refers to the ability to express words in speech and writing.

According to Cobb and Cole, the integration of speech takes place at five levels. The neuromuscular level includes the peripheral muscles of speech in the larynx, lips and tongue, together with the neurones in the medulla oblongata and the axones to the muscles. Lesions here lead to paralysis of the speech mechanism with varying degrees of aphonia. The next level is made up of cortico-bulbar neurones and lesions of these (mainly in the cerebral peduncles) give rise to dysarthria or imperfect articulation. The cerebellum is of great importance in speech as a coordinating center and lesions here give rise to scanning, explosive and monotonous speech. Lesions of the cerebrum give rise to agnosia (failure of symbolic understanding) and aphasia (failure to use articulated speech and to understand the spoken word). The fifth level is also located in the cerebrum and is the mechanism which is disturbed in stuttering. Little is known of its exact localization. It appears to be closely connected with emotional expression and with dominance of one cerebral hemisphere or with lack of clear cut dominance of either hemisphere.

Orton describes three levels in the degree of physiologic complexity with which the brain utilizes visual and auditory impulses: (1) Destruction of those parts of the cerebral cortex which serve as termini for the nerve paths from the eyes or ears give rise to cortical blindness or cortical deafness. (2) The patient may be able to see or hear but is unable to recall the purpose of objects, *i.e.*, mind-blindness or mind-deafness. (3) There may be no loss of ability to recognize and interpret objects, pictures, etc., but the printed or spoken word is not comprehended, *i.e.*, word-blindness or deafness.

MATURATION OF SPEECH

The earliest vocalization of the child is the birth cry. The babbling stage, in which the child uses his speech mechanism in vocal play, appears at about the

third month. The early babbling repertoire of the infant, which appears as part of the process of maturation, consists of a wide variety of sounds from which the child selects those which are useful by a process of learning.

A very quiet infant should be considered carefully with regard to deafness, dumbness or mental retardation. The infant responds to emotional attitudes and understands the emotional tone of what is said long before he recognizes the meaning of words. Gradually emotional speech is supplanted by true speech as the child learns to recognize the meanings of individual words, thoughts and associations of the word which correspond with the given object or situation or need of the moment.

Before one year the infant may make sounds which are interpreted by the parents as having particular meaning. "Mama," "dada" and "nana" are sounds which children all over the world make early in life and these, by convention, have been assumed to refer to mother, father and nurse (or grandmother or other relative who may be present). The waving of the hand accompanied by a sound is thought to mean "bye-bye" and other unlikely meanings are assumed to exist. There is probably no such connection in the child's mind at the time and these vocalizations, therefore, can hardly be properly referred to as speech. Frequently, at about one year of age, the child stops using these words and later uses them again with definite meaning. Most children understand what is said to them and can carry out simple commands before they have really started to talk. The fact that the normal child acquires with equal ease any language to which he is exposed, is evidence that imitation plays an important part in the acquisition of speech.

The age of appearance of true speech, by which is meant the ability to use words with meaning, varies widely. In a study of 47 normal children 24 months of age one child used 5 words, another 1212 while the average for the group was 328. Speech is rarely observed as early as the ninth month. By one year about 74 per cent of children have begun articulate speech but even at 18 months only about 26 per cent of the vocal responses of children are comprehensible. By 2 years children may be expected to have a vocabulary ranging from 20 to 300 words or more. The vocabulary of the ordinary high school graduate is about 14,000 words.

Almost without exception nouns having concrete meaning are the earliest words used, names of familiar objects or persons being most frequent. The infant prefers monosyllables or similar disyllables, *e.g.*, "bye-bye," "tick-tock." Verbs and pronouns then come into use and the early sentences of the child appear as direct repetitions of combinations of words previously heard. Later, relative pronouns, coordinating and connecting words are used and gradually words with abstract meaning appear.

Of the factors influencing the acquisition of speech, socio-economic status is one of the most important, children from better environments being consistently more advanced than poor children; in fact the learning of speech correlates more closely with environmental conditions than with intelligence test results. Intelligence seems to be related to speech development, gifted children starting to talk, on the average, about 4 months earlier than average children. It is not clear,

however, whether the precocious development of language is due to greater intellectual endowment or whether the higher scores on the intelligence tests are dependent on the greater linguistic ability.

Twins tend to be retarded in language ability. This does not appear to be dependent on inferior intelligence. It may be due to the close companionship between twins who are on the same linguistic plane to the exclusion of other more advanced children from whom they might learn. Association with adults leads to precocious speech development. Late acquisition of speech may be familial. Sex is also important, girls being more advanced in speech development than boys.

DISTURBANCES OF SPEECH

Disturbances of speech include lisping, stuttering, monotonous voice and indistinct speech, inability to speak and retarded development of speech. It has been estimated that 3 per cent of school children have some impairment of the speech function. Some defects such as lisping tend to decrease with age while stuttering increases during the school years. Left-handedness and hand-conversion play an important part in many forms of speech difficulties.

An adequate auditory apparatus is necessary for the development of normal speech. It should be remembered, however, that a speech defect in a child with impaired hearing does not necessarily mean that the two conditions are causally related and other reasons must be eliminated before concluding that the auditory defect is producing the speech difficulty in question. One sound ear is entirely adequate for proper speaking.

The effect of aural impairment on speech depends, to a large extent, on the age when deafness makes its appearance. If it is present before speech develops mutism results. Deafness, even though incomplete, results in severe impairment of speech if the difficulty is acquired before the fifth year. In such instances spoken language is learned with great difficulty and only through the sight and touch faculties. The child learns readily to form sounds made in the front of the mouth, such as "b," "f," and "w," since he can see these sounds being formed; but he has great difficulty with sounds like "g," "l" and "r," which are produced in the back of the mouth. He consequently substitutes for the sounds which are made invisibly other sounds which he can see being made as "yook" for "look," "bet" for "get" and "wite" for "write." This type of speech defect is not necessarily associated with a hearing defect.

In children who become deaf after 6 years of age speech is not abolished but the voice is abnormal. The quality of the voice differs depending on the localization of the auditory defect. With nerve or perception deafness the voice is loud, without variation in pitch but with considerable variation in intensity; with impairment in the middle ear or conduction deafness, on the other hand, the voice is subdued and there is some monotony of pitch and intensity. These differences are due, presumably, to the fact that the child with nerve deafness has difficulty in hearing himself speak and he consequently shouts; while the child with middle ear deafness, since bone conduction is normal, hears his own speech

better than he hears the speech of others and hence he reduces the loudness of his own speech to correspond to what he hears of the speech of others.

There are two types of masked learning defects which are not obvious on superficial examination but which play a part in speech difficulties. One is regional deafness, that is, deafness within a certain region of the hearing spectrum. The loss in reception usually falls in the upper frequences and does not as a rule greatly influence the understanding of the spoken word as the child gets enough of the skeleton of the word to attach a meaning to it and hence the defect does not interfere with the general intellectual development. If the loss in hearing acuity is between 512 and 2048 double vibrations per second, the region in which most of the human speech sounds fall, the patient will have distinct difficulty in understanding the spoken word and even greater difficulty in reproducing it in speech. Children with this condition, even without instruction, learn to watch the lips of the speaker and in that way make out considerable of what is being said. If the child is old enough to be given an audiometer test there will be no difficulty in diagnosing this condition.

The other masked defect is congenital word-deafness by which is meant difficulty in recognizing the spoken word. As in the case of word-blindness, the term word-deafness is misleading since auditory acuity for pitch and intensity, as measured by the audiometer, is ordinarily entirely normal and there is no difficulty in the recognition of sounds other than words. Congenital word-deafness limits the ability to understand words and thus handicaps the child in speech, writing and reading. Children with this difficulty may have a normal or high intelligence but may appear backward because of their defect.

A rather serious emotional situation is apt to develop in association with word-deafness. Because of his failure to comprehend speech, the child becomes fearful of new situations and strange persons. This tends to keep him dependent on the parent who assumes an overprotective attitude, thereby intensifying the child's dependency. The parent, realizing that the child cannot make known his wants, anticipates them and so makes it unnecessary for the child to attempt to speak. Other emotional disturbances frequently seen with word-deafness are negativism and outbursts of temper. Because of the difficulty in understanding commands and the consequent confusion as to what is expected of him, the child becomes upset emotionally and responds with anger and negativism. If urged he becomes more annoyed and confused and a tantrum may result. At times he reverts to the infantile method of screaming to gain a point when it is not otherwise obtainable. Inferiority feelings are rare in contrast to the prominence of that symptom in children with other language difficulties. Children with word-deafness are apt to prefer to play by themselves but appear to be willing to join in group play if encouraged.

RETARDATION OF SPEECH DEVELOPMENT

Children who are unable to use at least 12 words with meaning by the third birthday may be looked upon as pathologically retarded in speech development. This may be due to mental retardation, organic disease of the brain, deafness,

dumbness, lack of opportunity for learning or parental oversolicitude. Left-handed individuals are particularly prone to disorders of the speech mechanism and in occasional instances speech has stopped abruptly when the child was trained away from the master hand. Since retardation of speech may be due to an organic condition a careful examination of the child should be made. Sometimes there is a familial tendency to late speech development.

Mentally retarded children (I.Q. below 70) are delayed in acquiring speech and this delay becomes more marked as the mental defect increases. All forms of speech defect except stuttering are common in this group. Indistinct articulation is the most frequent. Defective children often show no understanding of the question-response situation but imitate words and inflections which they hear, a condition known as echolalia. Mutism without deafness is encountered in idiots and is dependent on the severe degree of mental deficiency or to injury to the brain. Idiots often develop no farther than the crying or babbling stage.

Any organic disease of the brain affecting mental development may lead to retardation of speech in children. Encephalitis is particularly prone to affect the speech centers and children previously able to talk may lapse into a difficultly understandable mumble or may be mute.

Disturbance in hearing is a not uncommon cause of retardation of speech in children. If deafness is present before speech has developed mutism results. Partial deafness may result in more or less complete loss of speech if the disturbance in hearing is acquired before the end of the fifth year.

Parental Oversolicitude.—A great handicap in the training of speech is a home where the child's slightest whim is anticipated and gratified by oversolicitous parents. The child needs only to point to an object or scream and his wants are gratified. Under these circumstances there is little need for speech. Furthermore, as a result of parental efforts at protecting the child against injury, motor development and muscular coordination obtained in such activities as crawling and walking may be inhibited. Speech is only acquired through the harmonious action of brain and muscle and there is frequently a delay in speech or a weakened speech mechanism where other forms of poor coordination are found.

Lack of Opportunity for Speech.—In orphan asylums or hospitals where there is lack of opportunity for speech or little interest in what the child says, speech may be considerably delayed and, when acquired, may continue for an unusually long period to be of the infantile type.

LISPING

Lisping, commonly referred to as "baby talk," is normal in the young child and usually disappears at 4 or 5 years. Ordinarily there is substitution of "th" for "s" but there may also be other substitutions especially "w" or "l" for "r." If allowed to persist, it may develop into an annoying habit with difficultly understandable speech and secondary emotional disturbances. Lisping may be the result of negligence or poor training, it may be mechanical or it may be neurotic. Many parents find the imperfect speech of the young child amusing and hence imitate the childish efforts. In this way he is prevented from hearing and acquiring nor-

mal enunciation at the proper time. Furthermore the child, being eager for applause, will persist in a pattern of speech which is appreciated. This type of lisping is readily amenable to treatment and can be corrected by pointing out to the parents the advantages of using normal adult speech in the child's presence.

Children may also acquire a lisp when the parents, because of lack of education, carelessness or ignorance, speak imperfectly. The child under these circumstances has no one from whom to learn correct speech.

Mechanical lisping may be caused by a physical defect such as harelip, tongue-tie, weak labial muscles or malformation of the jaw. Physical defects should be corrected as far as possible. Special training is usually necessary after operation unless the deformity is corrected early in life.

Another cause of lisping, also mechanical, is a defect in the ability of the tongue to take certain positions in relation to the teeth. Lisping may be central, sometimes called infantile, or it may be lateral. Central lisping occurs when the tongue protrudes between the teeth producing "th" instead of "s," or when it takes a position behind the teeth in mid-air forming the soft "s" instead of the sibilant one. Lateral lisping occurs when the phonated breath escapes over one or both sides of the tongue. This is frequently associated with increased salivation and even slobbering.

Lisping may be a symptom of emotional immaturity and is often observed in overprotected children who are babied by their parents. By adjusting the parent-child relationship and helping the child to accept a more mature role, the habit will usually disappear. Occasionally a little practice in correct enunciation is necessary before the speech becomes perfect.

MONOTONOUS VOICE

Monotonous voice is an inhibition in the field of infection and is most often due to partial deafness. Occasionally it is caused by imitation or by faulty training.

INDISTINCT SPEECH

Indistinct speech is seen more often in boys than girls and results from carelessness in pronunciation or from poor training. It may be associated with carelessness in other activities. Some children speak so rapidly that they seem to swallow their words. Such speech is indistinct and has been referred to as cluttering speech.

INCESSANT TALKING

Incessant talking is most common from 3 to 5 years of age. Ordinarily it is the accompaniment of natural inquisitiveness. This is desirable and should be encouraged but it may be carried to extremes and in such instances the child should be diverted by substitution of other forms of motor activity. Sometimes incessant talking is used to gain attention. In such instances treatment is to be directed toward the cause of the excessive need for attention. When incessant talking continues into the school age it may be a compensation for timidity or

for a feeling of inadequacy. The emotional background should be investigated and corrected. It is frequently associated with other forms of hypermotility.

IDIOGLOSSIA

Idioglossia refers to a language invented by the child. It is not uncommon. In families where there are several children of approximately the same age they may invent a language which they use among themselves and speak fluently and which the parents cannot understand. It is usually based on reversing the syllables, changing the first letters of the words or ending all words with the same letters so that the sentences rhyme. When one gets the formula it is easy to understand. An entirely original language is unusual but has been invented at various times by children.

Most children discontinue their special language as they develop outside interests but some continue to use it in adult life when they do not wish to be understood or when they are particularly intimate. Occasionally mothers have taught this language to their children and are able to speak it with them.

STUTTERING

Stuttering or stammering is characterized by interruptions in the flow of speech. There may be blocking, in which case the child is unable to articulate various sounds, or there may be repetitions of sounds. The speech may be explosive, scanning, or merely slow with occasional hesitations. The speech difficulty is aggravated by situations that arouse fear or self-consciousness.

The act of stuttering is often accompanied by various associated movements such as twisting the face and general muscle tension. These are not an essential part of the act but indicate the intense effort which the stutterer makes whenever his speech muscles fail to function properly. Some stutterers find that voluntary clenching of the left hand or stamping of the left foot allows freer speech.

Emotional disturbances are frequent. There appears to be little relationship between the severity of the speech defect and the degree of emotional difficulty which it causes. Stutterers are often embarrassed and frightened and many complain that other people, out of a misplaced attempt to be helpful, are perpetually taking their sentences out of their mouths. They frequently feel that they are behaving stupidly and that they may be looked upon as mentally defective. During adolescence an overlay of emotional factors intensifies the child's unhappiness and he may become increasingly quiet, speaking only when necessary.

Etiology.—Stuttering may begin with the onset of speech or it may be acquired later. It is present before the sixth year in about two-thirds of the cases and increases in frequency during the early school years, particularly in boys, but there is a decrease as puberty is approached. It is about 4 to 6 times as common in boys as in girls and frequently occurs in several generations and in several members of the same family. It is sometimes imitative. About 7 to 9 out of 1000 school children in America are stutterers.

Cobb and Cole divide the schools of thought regarding the etiology into three

categories: (1) according to the older physicians, stuttering was looked upon as a disturbance of the peripheral speech mechanism and much of the therapy currently practiced with some success is based on this hypothesis; (2) according to the psychologic school, stuttering is considered a disorder of the personality. The disturbed speech is a symptom of an underlying conflict and is the result of fear or lack of confidence; (3) according to the third point of view, stuttering is a disturbance of the language functions which include not only producing and understanding of speech but also reading and writing. That the processes involved in speech, reading and writing are closely associated is shown by studies of aphasia where the whole language function or any part of it may be disturbed. Areas in the brain have been demonstrated which regulate these functions. These areas exist mainly on one side of the brain. The other side is not essential for the language functions.

Although stuttering may be solely psychogenic it is likely that in many instances there is a structural abnormality in the brain. Persons with such an abnormality in the language centers, when exposed to emotional stress, are much more likely to develop speech defects than are structurally normal individuals. Frequently associated with the speech defect are difficulties in reading, writing and other motor skills.

According to Orton, though stuttering may occur in individuals who are exclusively right-sided, it is more apt to take place where a shift from left to right-handedness has been effected or is in progress; or among the intergrades, that is, persons in whom there is no clear-cut preference for either side. The converted sinistral functions under unusual strain because of the effort necessary in using the less competent hand. Moreover, the tensions which result from the transposition of hand power may be further accentuated by visual strain dependent upon the sighting eye. There is a group of more general difficulties which occur frequently in the converted individuals, including awkwardness, poor muscular coordination, irritability, restlessness, slow thinking and readily induced confusion. Among the active special symptoms are slow speech, mirror writing, and reading and writing difficulties.

In the treatment of stutterers a careful history and examination are necessary in order to determine whether the defect is primarily psychogenic or neurogenic. Where there are speech defects or left-handedness in the family, or where the stutterer was trained away from the master hand or is ambidextrous a neurologic basis is probable. In such instances, if the child is young enough, allowing free choice of the master hand may be curative. At a later age special training procedures to increase the superiority of the master hand are necessary. During the preschool age, before conversion has become firmly established, better success may be expected than later when the child has already learned to write.

Where there are errors in pronunciation complicating the stuttering, phonetic training by standard methods should be undertaken. In most instances, with oral reading, the difficulty occurs with the initial sounds of the words. The child is benefited by tracing the first letter of each word with a pencil while he is reading. The reading is necessarily slow at first but, as the child improves, the copying of the first letter of only every third or fourth word will be necessary,

then of only the first word of each phrase or sentence until it may be done away with altogether. The pencil must be in motion before the speech effort is started or it will not help the stutterer. When the reading is entirely free from stuttering some carry-over to free speech may be expected. Occasionally no further training is necessary but more often the improvement is slight. The teacher should be specially trained and should be one whom the child will accept and trust since resistance or fear of the teacher may defeat the program of retraining.

In all cases the emotional status of the individual must be considered as well as the speech defect. The parents should assume a calm and unemotional attitude toward the symptom and should avoid the implication that it is in any sense a disgrace. They should try to instil in the child a realistic and objective attitude. A common parental error is to assume that the child is unconscious of his stuttering. This is obviously untrue. The child is easily humiliated because of his defect and the parents should watch carefully to see that this humiliation does not make him unhappy. The child's environment should be calm and his home a secure one. Other defects should be corrected whenever possible or the child should be helped to understand and compensate for them. He should be removed from other individuals with speech difficulties. Nagging and overexcitement should be avoided.

The child should be encouraged to lead a normal life, to develop friendships and to join other children in their activities. Much of the social awkwardness of adult stutterers is the result of social inexperience during childhood. The stuttering child should be encouraged in activities which aid normal social and emotional development. Most stutterers like to talk and it is unwise to help them or to ask them to stop and start again or to talk more slowly. These all call attention to the defect and tend to embarrass the child and to exaggerate his difference from other children. Strong competitive speech, particularly arguments at home or in the playground, should be avoided as the child is here at a definite disadvantage. The child should not be asked to engage in activities which require a great deal of speaking under emotional tension. It is usually unwise to have him take part in public programs, or in extended recitations in school. Instead he should be allowed to write his work or recite to his teacher privately. This is particularly true if he cannot stutter in public without being upset emotionally.

The child should be trained to work successfully in some field where speech is not required. An outlet should be found for his fundamental social and biological tendencies and for his necessity for winning some success.

Exercises which tend to develop general rhythm are of value such as swimming and dancing and perhaps singing. Most stutterers can sing without difficulty. The use of vocal exercises such as inflection, change of pitch, breathing, etc., is to be avoided as it only adds to the child's confusion.

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CHAPTER XVI

THE LANGUAGE FUNCTIONS—READING, WRITING, SPELLING

Reading Disabilty. Etiology, Lack of Readiness, Improper Training, Physical Handicaps, Emotional Handicaps, Developmental Defects. Diagnosis. Prognosis. Treatment, Emotional Adjustment, Correction of Physical Defects, Remedial Training. Writing Disability. Spelling Disability.

READING DISABILITY

There is a sizable group of children whose reading ability is well below their potentialities for learning as measured by general clinical observation and intelligence tests. This reading disability, or dyslexia, is often the basis for great unhappiness among children.

The ability to read varies widely. In New York City the median reading grade for a group of children about to complete the eighth grade was found to be Grade 9.14, with the individual scores ranging from below third grade to college level; and other surveys show similarly wide variability. A large part of the variability is related to the intelligence but available statistics indicate that as many as 10 to 15 per cent of the public school population are suffering from disability in reading. A considerable proportion of the victims are children of superior intelligence and most of them have had the usual reading opportunities at home and in school.

Reading difficulty is the major cause for school retardation. More children fail in first grade than in any other and nearly all the failures are because of reading. Even later, in the seventh and eighth grades, about 20 per cent of failures are dependent on poor reading.

In children with reading disability there is difficulty in recognizing the meaning of the written word. The complex mechanisms requisite for the understanding and reproduction of graphic language are acquired by the child at a much later period than the auditory and coordinating background necessary for spoken language. Most children can be taught to read and write at about 6 years and by 8 years the large majority who have received training can read simple books easily. This is true whether reading is taught by the "letter method," *i.e.*, the words are spelled out, or phonetically, the method commonly used in teaching foreign languages, or by the "sight method" by which entire words and even entire phrases are fixed in the child's mind as units without reference to their composition. The "letter method" achieves correct reading somewhat earlier, but the more recently introduced "sight method" seems to lead to greater rapidity and fluency in reading at later age levels. Still other methods are under study.

In general, poor readers have no difficulty with numbers and hence they make normal progress in arithmetic. Occasionally, however, number reversals occur, as, for example, when the child reads 18 instead of 81. Penmanship is not related to reading disability. Since the ability to recognize and recall words is essential for both reading and spelling, poor readers are usually poor spellers. Composition is also poor.

Boys are affected from 3 to 4 times as frequently as girls. Poor readers rarely read for pleasure. They often enjoy having stories read to them. This practice has the disadvantage that the child develops literary interests far beyond the point which he will be able to reach in reading by himself for many years. Children with a reading disability usually prefer mechanics and athletics as pastimes.

The effect of reading disability on the emotional status of the child and on his future emotional and mental development may be profound; and this is especially unfortunate since the condition is remediable. Responsibility for recognizing a reading defect rests primarily on the school but, since many schools are lax in this respect, it is often advisable for the physician to make inquiries and to discuss the subject with the parent.

Etiology.—The factors which may lead to reading difficulty are numerous. For convenience they have been divided into five groups: (1) lack of reading readiness; (2) improper training; (3) physical handicaps; (4) emotional handicaps; and (5) developmental defects. It is to be remembered that no one factor will of itself prevent normal reading although any one may seriously interfere with the child's learning.

Lack of Reading Readiness.—Many children are not developmentally ready to read when they enter school. If training were delayed for a year or two they would make normal progress but now they are bewildered and frustrated by their inability to compete with their schoolmates. Feelings of disappointment and defeat further interfere with their success.

Readiness to read implies a certain degree of mental development, a background of experience, mastery of speech, social maturity, muscular coordination, ability to perceive similarities and differences. Many children who are starting to learn to read show mental immaturity, short memory span, poor powers of concentration, difficulty in speech development or a speech defect such as stuttering. Some children are brought up in homes where very little English is spoken and hence are in the position of children trying to learn a foreign language. Limited experience with resultant small vocabulary and scanty stock of ideas may hinder understanding of what is read.

Immaturity may be found in the emotional development of the child. He may be unusually shy and fearful. He may be restless and hyperactive and unable to concentrate. He may be fatigued due to overstimulation at school and require more rest than he gets. In some children there is lack of muscular coordination and clumsiness in holding the pencil, crayon or scissors.

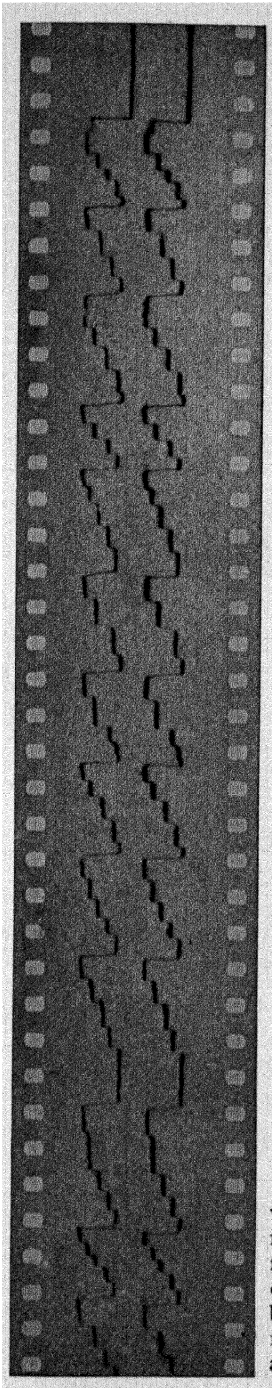
Some of these children are backward in the development of perceptual discrimination. They do not easily detect the difference between two somewhat similar pictures and have great difficulty in distinguishing the letters. Others can

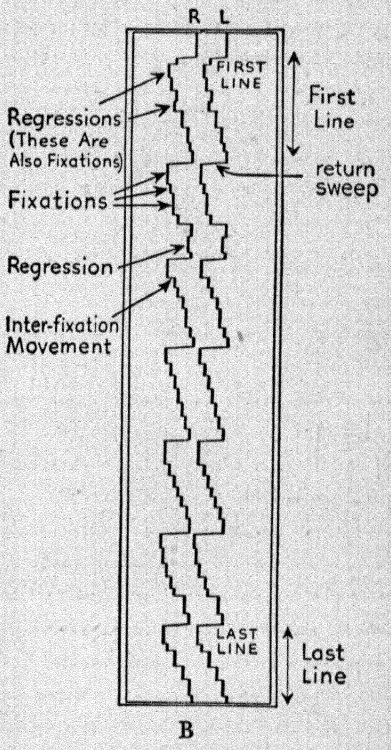
distinguish individual letters but cannot recall the sequences of the letters in their order of presentation. Inaccuracies are due to the confusion of relatively vague similarities between letters such as "e" for "a" or "l" for "k"; others are due to failure to recall the spatial orientation of a symbol or vertical disorientation, *i.e.,* when "u" is mistaken for "n" or "p" for "b"; and right and left disorientation as when "b" is mistaken for "d" or "p" for "q." This last type of error is by far the most common. It is frequent in young children who have no reading disability and is not necessarily permanent. Apparently there is an almost complete equivalence in the two symbols and at one time the letter is correctly recognized and again it is given the name of its mirror image. In failing to recall a sequence of letters "was" may be read for "saw" or "pot" for "top." Here again the confusion is not fixed and at times the word is correctly recognized. Sometimes parts of words may be correctly recalled but the sequence mistaken, that is, the syllables are recalled in sinistrad order as when "repast" is read "ast-rep." When the result does not make a word as in the case above the child may unconsciously add or change letters thus giving it a meaning. Thus "of" may be read "for" and "fan" "nap." Many of these errors can be seen as true sinistrad reversals. A considerable proportion of children with reading disability find mirror reading easier and quicker than the usual left to right sequence.

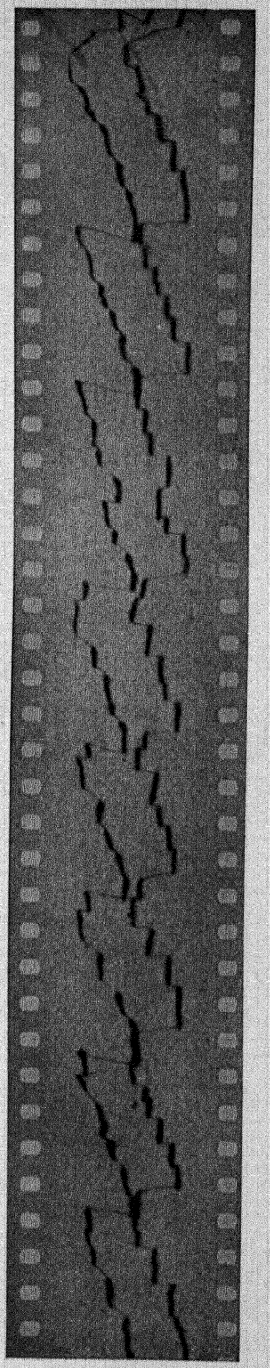
Improper training accounts for a considerable number of poor readers. There may be repeated absences from school or changing of schools so that the child has not had consecutive instruction. The teaching may be at fault as when instruction is given by incompetent teachers or parents, or when a method is used which is poorly suited to the child in question, whether it be the letter method, the phonetic method or the sentence method. At the lower grade levels the span of recognition is less than a single word and it is therefore futile to try to get young children to see and react to phrases and sentences if they are given time for only a single fixation. Much confusion in reading habits of small children would be avoided if the teacher understood the extent of the span of recognition.

When the child is unable to read at his grade level the attempt to train him is sometimes made by starting his reading over again with primers. The context is uninteresting and he is embarrassed by being given a primer or reader used by children in a lower grade. He naturally rebels and often either refuses to read or appears unable to do so. When the parent or teacher insists that he spend considerable time at reading or when he is taken from more interesting occupations and made to read he grows to resent the reading situation and to dislike books.

Physical Handicaps.—Defective hearing is a greater handicap in reading where instruction is by the auditory phonetic method than where it is taught by the visual sentence method or where silent reading predominates. Poor hearing should be suspected if the child asks for repetition of directions or shows effort in listening. The tests for hearing have been discussed in Chapter V. There are instances in which a child may have normal hearing and still be unable to understand the spoken word (sometimes referred to as congenital







A C

FIG. 16.—READING GRAPHS.

A, reading graph of a high school girl who is an efficient reader; *B*, schematic reading graph demonstrating regressions, fixations, return sweeps and parallelism of eyes; *C*, reading graph of a high school boy who is retarded in reading. The eye movements are not parallel, the fixations are irregular and the regressions frequent.

(By permission of the American Optical Company).

word-deafness). This is seen more often in relation to deficient speech than with disabilities in reading.

Defective vision is a frequent reason for difficulty in reading. The child gets a blurred image and is unable to distinguish the printed letters. With this type of difficulty the child is apt to be a slow reader, mistaking one word for another, stumbling over easy words and going back over part of the line of print in order to understand the meaning of what he is reading.

Defects in the coordination of the two eyes and in eye muscle balance have recently been found to be not infrequent in children who read poorly. For normal, two-eyed vision both eyes should focus on the object and the two images should be fused in the brain. Where fusion is incomplete the images perceived by the two eyes overlap or one is seen above the other and this will necessarily cause considerable confusion in reading.

FIG. 17.—PHOTOGRAPHING THE EYE MOVEMENTS OF A CHILD WITH THE OPHTHALMOGRAPH.
(By permission of the American Optical Company).

During reading the eyes do not move regularly along the line of print but proceed in alternate jerky movements and pauses. Reading takes place only during the pauses or *fixations* which last but a fraction of a second. At the end of the line there is a smooth continuous movement back to the beginning of the next line. This is the *return sweep*. Good readers see several words at one fixation. The number of words seen at one fixation is called the *recognition span* and can be readily calculated by dividing the number of words in a paragraph by the number of fixations. Not infrequently the eyes will move backwards to get a second look at something which was not clearly seen or comprehended. These backward movements are known as *regressions*. Good reading is characterized by a wide recognition span, as indicated by a small number of fixations, and by few regressions.

There is available a modified moving picture camera, the *ophthalmograph*, for photographing eye movements during reading. The corneal reflection method

is used. Small beams of light, focused on the eyes, are reflected by the corneas and these reflections appear as tiny beads of light in the camera reflex finder. The movement of the light beads corresponds to the movements of the eyes. While the subject's eye movements are being photographed he reads standardized material from a test card. Comprehension is checked later by having the child mark a true-false test of the material he has read.

The ophthalmograph provides a record of the type of binocular coordination and lateral control of the visual mechanism, the speed of reading and the number of regressions or backward movements. Averages for speed of reading and comprehension, based on silent reading for various grade levels, have been standardized and are available for comparison with individual scores.

Emotional Handicaps.—Though most children come to school eager to learn to read there are a few who are indifferent or actually antagonistic. This hostile attitude sometimes results from the premature efforts of well-meaning parents to teach the child to read before he is ready. The child who has been overprotected at home may have difficulty in adjusting to the children at school. He is bewildered and reacts with excessive shyness and timidity. Some sensitive children are discouraged by their early mistakes and the ridicule of their schoolmates.

It is often difficult to discover whether the emotional disturbance is the primary factor leading to poor reading or whether the distress is the child's reaction to his failure. In almost every case of reading disability emotional disturbances play a prominent contributing role.

The child who has difficulty with reading usually feels uncertain and emotionally upset at school and he is apt to make more mistakes than necessary. If he is ridiculed and shamed he may refuse to attempt to read altogether. Usually both spoken and written vocabularies are poor and compositions and examinations are therefore unsatisfactory. Some of these children pretend that they are able to read and carry books which are far beyond their capacity, attempting to learn the contents by looking at the pictures or by listening to the comments of their friends. They are resentful of remedial work because this is so often taught with primers and simple books the context of which is uninteresting to a child of 9 or 10 years. Success is obtained only when the training is in the hands of experienced teachers.

Many children with reading difficulty are inattentive, readily distractable and restless in school. This appears to be the result rather than the cause of the difficulty. With even slight improvement in reading the concentration is improved and the child's attention remains focused for longer periods on his school work.

Developmental Defects.—Orton has presented evidence to indicate that, in a sizable proportion of children with reading disability, there exists a developmental defect of the cerebral centers which deal with comprehension of graphic language. This condition has been referred to in the older literature as "congenital word blindness." Orton has coined the word "strephosymbolia," meaning "twisted symbols," as more descriptive of the syndrome. He prefers this term because congenital word blindness overemphasizes the inherent factor and because there is no true blindness. This can be readily demonstrated as children with severe reading disability can copy words correctly even if they are unable to read

them. The difficulty is not one of vision but of comprehension. The strephosymbolic child finds the context confusing and is unable to understand what he is reading.

According to Orton many instances of reading disability are dependent upon mixed cerebral dominance. His views are not generally accepted although, in some instances, improvement in reading has occurred when the child was retrained to the use of the dominant hand.

Diagnosis.—A specific reading difficulty should be suspected when the school performance in subjects requiring reading is far below that in other subjects.

Where there is a question as to the child's intelligence appropriate tests should be given. A mental test which puts considerable stress on vocabulary, reading or verbal tests may give a low score because of the influence of the reading disability. The simpler tests for reading readiness may be given in the physician's office (see Chapter IX).

Defective hearing should be investigated. The visual examination should include not only tests of acuity and refractive errors but examination for eye muscle imbalance. In some instances it may be advisable to study the eye movements during reading from the ophthalmographic record.

A history of school attendance and progress should be obtained. The child may have started school too early or too late. There may have been repeated absences from school or frequent changing of schools. The methods used to teach the child to read, the attitude of the present teacher and of previous teachers toward his failures may be at fault.

The family history is of great importance, especially as to premature efforts at teaching the child to read and undue pressure directed toward stimulating his interest in books. Annoyance, embarrassment, scolding, etc., may lead the child to resist the efforts to teach him and so further limit his ability to learn.

The nature of the reading defect may be clarified by means of special tests for oral and silent reading (Gray Oral Reading Tests and Gates' Silent Reading Tests). With these tests it is not only possible to determine the degree of comprehension but also the ability to discriminate form of letters, the extent of the vocabulary, memory span, ability to learn word forms, understanding of logical relationships, etc. Repeated tests will show what improvement the child is making in these various aspects. These tests should be given by individuals with special training.

Prognosis.—The outlook is good. All children except low-grade mental defectives can be taught to read. With intensive remedial work the child may improve so rapidly that he is able to cover the reading of several grades in one year. Speed of reading as well as comprehension may be increased.

Treatment.—The child who is unable to read is apt to feel insecure and inferior because of his failures. Every effort should, therefore, be made to restore confidence. The child should be assured that his intelligence is normal and that his inability to read is no evidence of stupidity. His success in other fields should be pointed out and applauded and any special abilities or talents should be stressed. He should be told that, with adequate training and a little effort on his part, he can be taught to read.

The parents should understand something about the nature of reading disability and should be told that it in no way reflects on the child's general intelligence. They should understand that the child can be entirely cured. There should be no shaming or ridiculing of the child and home pressure for better work should be discontinued. Any situation which causes emotional tension may interfere with the child's learning. Comparisons with siblings or other individuals are to be avoided.

Defects in hearing and in vision should be corrected as far as possible. Orthoptic training or exercise of the eye muscles by various methods materially improves poor fusion due to muscle weakness and so has a definite place in the treatment of some cases of reading disability. Special instruments have been designed and are available in reading clinics and the offices of some ophthalmologists. Less elaborate hand stereoscopes and prisms are adequate in the majority of cases.

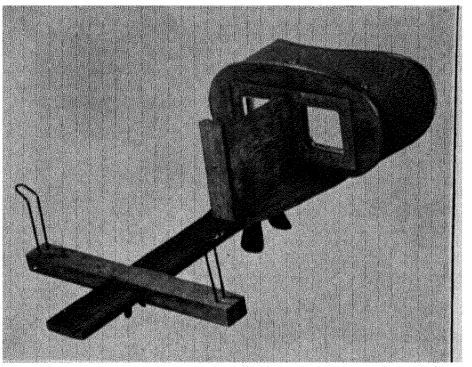


FIG. 18.—ORTHOPTIC TRAINING EQUIPMENT.

Simple stereoscope (By permission of the American Optical Company).

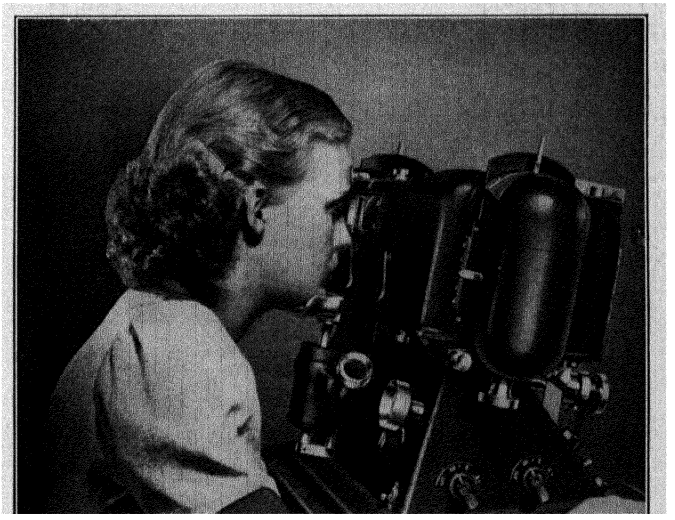


FIG. 19.—ORTHOPTIC TRAINING EQUIPMENT.

Stereo-orthopter (By permission of the American Optical Company).

Remedial training is a function of the teacher trained in this field but it is well for the physician to understand something of the technics employed. The amount and rate of improvement is related not only to the extent of the child's disability and its cause but to his willingness to cooperate, his intelligence and

the efficiency of the instruction. If the child becomes discouraged or continues to be resentful of efforts to help him the methods should be investigated.

A few of the principles underlying remedial training may be mentioned. It is important to start instruction at the child's reading level and not to present material which is beyond his capacity. Secondly the reading matter used must be interesting enough so that the child will not become bored or resentful. He

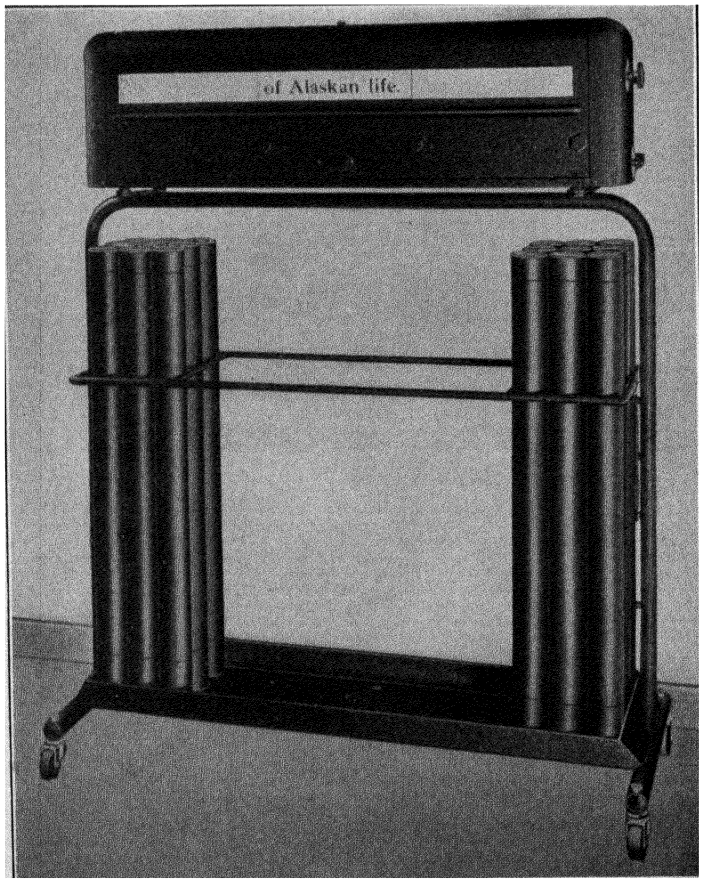


FIG. 20.—THE METRONOSCOPE.

A triple shutter short exposure device for controlled reading. *a*, improvement of reading by use of the metronoscope; *b*, metronoscope (By permission of the American Optical Company).

can not be expected to be interested in books written for younger children. Suitable material may be found in the Children's Bookshelf (published by Ginn and Company, Boston) which contains two preprimers, a primer and eight readers corresponding to the eight grades. The material is new and the stories are interesting and relatively easy to read. There is also a series of children's classics abridged and rewritten so as to be suitable for the fourth grade level (Longmans, Green and Company, N. Y., publishers). Of great importance is the arousing of the child's interest. This is often difficult with the resentful child who has been

criticized and shamed because of his disability. Interest can be sustained by charting the results of frequent retests which show improvement and so increase self-confidence.

In many instances special training is necessary to correct faulty habits of reading. The metronoscope has been found useful to increase the speed of the slow reader and to establish left to right sequence in mirror and in confused readers. This is a triple shutter, short-exposure device whereby the shutters are opened for a fixed period in left to right sequence, thus compelling the child to read in this direction. Since the shutter closes after reading and the material cannot be reread, regressive movements within the line are impossible. The span of recognition varies in different individuals but can be increased through training in controlled reading by speeding up the film in the metronoscope.

The reading material used in the metronoscope is standardized and varied enough to cover all levels of reading ability. Picture rolls start the training of very young children. The roll material is available for primary, intermediate and advanced levels. Difficult words are grouped for study at the beginning of each story roll. The timed movement of the film permits computation of the speed of reading. Errors in reading may also be observed.

Various technics have been employed to establish an effective left to right reading habit with few fixations and regressions and with accurate return sweeps. Some of the best-known classroom methods are:

1. Holding a ruler under the line.
2. Using a pointer to direct the eyes.
3. Slipping a slotted card along the line of print to expose it in sections.
4. Grouping words in thought units and spacing these units.
5. Indicating eye stops by dots under the words.
6. Pressure reading, *i.e.,* reading against time or in competition with another individual.
7. Tapping and metronomic exercises.
8. Tracing methods.
9. Use of the typewriter in reading and spelling activities.
10. Projection technics which make use of motion picture equipment.

WRITING DISABILITY

The term "special disability in writing" or dysgraphia is applied to children who, in spite of adequate and even intensive training, are unable to write in a reasonably well formed hand and with average speed although their accomplishment in other academic fields is normal. The child learns to form characters without difficulty and can usually copy well but is unable to write from dictation. The condition is usually associated with reading disability. The same types of error are made in both reading and writing, particularly sinistrad reversals.

When a child first learns to write, occasional reversal of letters is normal. The consistent sinistrad orientation of all letters and sinistrad progression of words, known as "mirror writing," is seen not infrequently in a left-handed child

writing with the left hand, and there is some reason to believe that it represents the natural pattern of writing for the left-handed child. When, however, mirror writing is spontaneously produced by the right hand it suggests a confusion in the functioning of the language centers and is of considerable importance in the interpretation of both writing and reading difficulties.

FIG. 21.—MIRROR WRITING.

R. F., an 11-year-old girl, was the first born of uniovular twins. There was mild Erb's palsy of the left arm. Child was in 2A, her twin sister was in 4B. She was retarded in school because of difficulty in reading and writing. The teacher complained that her writing was sometimes entirely illegible. When asked to write spontaneously, she produced left-to-right writing with the right hand (specimen *A*) or right-to-left writing (mirror writing) with the left hand (specimen *B*). Specimen *C* shows her effort at left-to-right hand writing with the left hand.

Beeley found mirror writing in 1 out of 2500 children or 0.04 per cent while Gordon obtained it in 0.5 per cent of his group. Either the right or left hand is used but almost all mirror writers are fundamentally left-handed. Some children who are unable to write well from left to right have great facility in writing from right to left. The best method of teaching the mirror writer to write normally is to have him cultivate the use of the left hand even though the writing may be worse at first than with the right hand. The child should write carefully and slowly from copy, at first having the hand guided by the teacher. Attention should be paid to the details of each letter and they should be fixed in the child's mind by repeating them frequently. No spontaneous writing should be permitted during the early period of training.

Occasionally there is a vertical inversion, that is letters are written upside down, but this is usually rapidly corrected either spontaneously or under guidance. A persistent tendency to reversals is much more difficult to eradicate. There is often marked difficulty in forming letters and in writing legibly. At times the writing is so poor that it can not be read by the writer himself. Accompanying this is slowness in writing and easy fatigability which may be a real obstacle to success in school.

Writing difficulties are frequently observed in left-handed children who have been trained to write with their right hands. It is also seen in left-handed children who use their left hand for writing, but are allowed to write with the paper in the position suitable for right-handed individuals, or where they are forced to acquire a slant which is abnormal for them. Writing difficulty may also be

present where the preferred hand has been injured and it becomes necessary to use the less competent hand. Some of the children who have difficulty in writing give crossed patterns on tests of their handedness and eyedness, for example, right-handedness and left-eyedness.

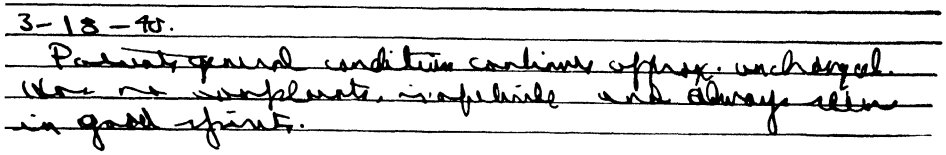


FIG. 22.—HANDWRITING OF A CONVERTED SINISTRAL.

The letters are carefully formed and legible. The confused appearance is due to poor control of the right hand by a left-handed person.

Usually there is no difficulty in fields outside of reading, writing and speech, and the child succeeds normally in the coordination of the finger muscles of the hands in such skills as drawing, painting and piano-playing. However, there is a small group of children who have an unusual degree of difficulty in learning any motor patterns which require a high degree of complexity of muscular movements—congenital apraxia. These children do well in school except in writing but make exceedingly slow progress in sports and piano-playing and have great difficulty with rapid succession movements, rapid pronation and supination of the hand, hopping, etc.

An emotional factor is sometimes present in children with writing difficulty but this is much less marked than in severe strephosymbolia probably because the defect is less obvious. When present it usually takes the form of a feeling of inferiority because of failure in writing after sincere and conscientious effort. The child's reaction to his defect is greatly influenced by the parental attitude.

Most children who show a marked delay in learning to read show a comparable delay in learning to write but with some of these the writing difficulty persists after a reasonable degree of reading skill has been acquired. When the writing disability is not associated with reading difficulty it means that the visual images of words are brought into association adequate for recognition and yet fail to enter into linkage with kinaesthetic control necessary for graphic reproduction. The child understands what he reads but can not form the words on paper.

Writing disability, like reading and speech difficulty, is much more frequent in boys than in girls. A direct familial history is sometimes obtainable and the frequency of left-handedness and of other language disabilities in the families of patients suggest the possibility that this disorder may be affected by cerebral dominance.

Treatment.—In the correction of a writing difficulty both legibility and speed must be considered. Proper arm movements are essential. These may be taught through exercise without actual writing or through tracing or copying letters and words. Where emotional factors are prominent, the writing is best presented as "drawing." If necessary the teacher should at first guide the child's hand. The easiest and most natural slant in writing should be encouraged. The slant of

the paper should be correct and the pencil should be held in the proper position. Right-handed individuals naturally write with the upper part of the paper to the left, while left-handed individuals naturally prefer the opposite position.

If it is necessary to retrain a child to the use of the left hand in cases of conversion, this should be undertaken only with most careful supervision and with a thorough understanding of the conditions present in the particular case.

Instruction in writing should be carried out by experienced persons. Neatness should be stressed. Repeated short periods of training (10 to 15 minutes several times a day) seem to yield better results than longer ones. Daily practice is advisable as much is forgotten during vacation periods and the feeling of insecurity and helplessness is apt to return. During the training period, no other writing should be permitted. The training must be done slowly and the child encouraged by pointing out his improvement rather than his mistakes.

With gain in ability the inferiority feeling from which the child may have suffered disappears quickly and a marked improvement in behavior may be expected.

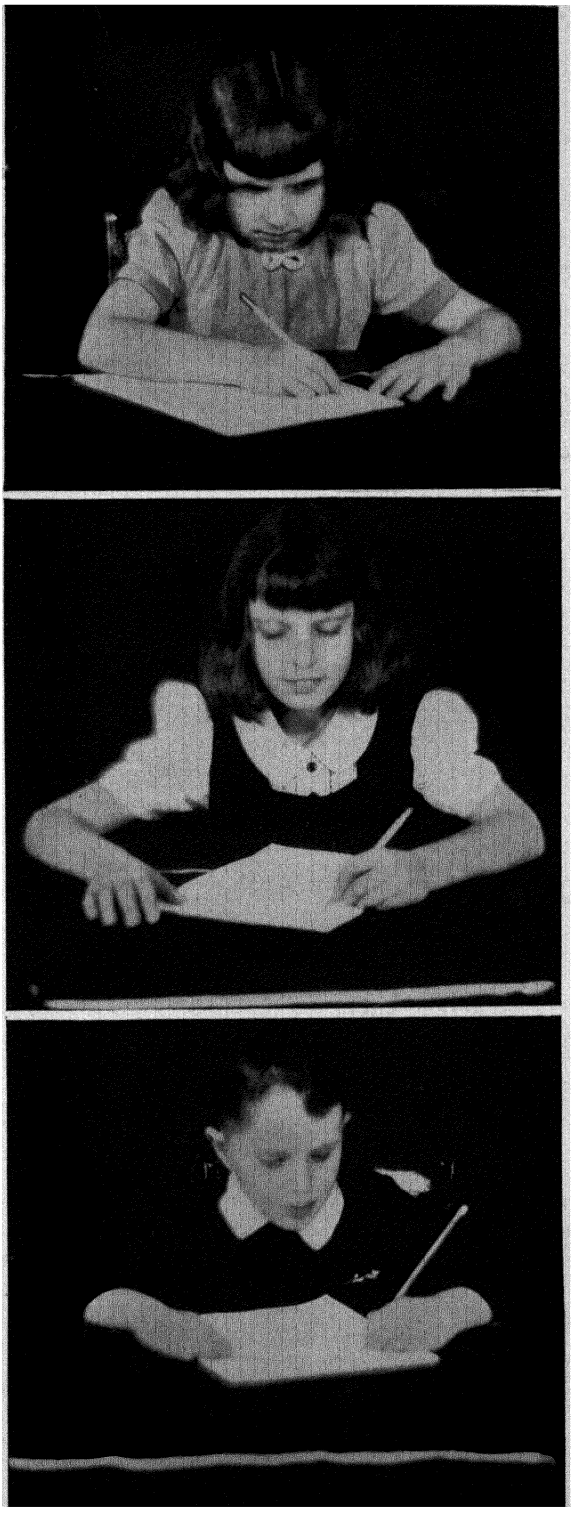
SPELLING DISABILITY

Difficulties in spelling are frequently associated with defective reading or, to an even greater extent, writing. In some instances the uncertainty about spelling may be sufficiently great to detract from the mechanics of writing and in this way may be the primary factor in a writing difficulty. The basic disturbances in all the graphic functions are similar, failure to recall accurately the details of individual symbols and their order of presentation. There may also be difficulty in synthesizing sounds and syllables in unfamiliar long words as a remnant of earlier reading disability. Occasionally children are able to spell words correctly without being able to read them. They may first spell them out loud and then may or may not pronounce them correctly.

In some children there is an isolated disability in spelling, a striking failure in the visual recall necessary for the spelling of many English words, and yet these children may be good silent readers. Obviously the visual images here are sufficiently well implanted and integrated to permit recognition but not to serve in recall.

In English, learning to spell means repeated drill on many words because of inconsistencies of English orthography. In order to write a word the child must remember its sound. If it has been incorrectly or indistinctly pronounced he may spell it wrong. Also if he does not hear well he may make a mistake. In teaching spelling, therefore, it is most important for the child to hear the proper sound. Memory also plays a large part and a word once spelled incorrectly is apt to be spelled wrong repeatedly. It is therefore wise to help the child spell each word properly at once.

Some schools stress the "sight-method" for teaching reading and phonetic training is tabu. This may result in inadequate knowledge of which letters to choose for the sounds of the word which the child is to spell so that he can misspell one word in two or more ways as spelling "case," "kase" or "kace" or "cace." Under this method spelling must be learned as a separate subject.



A

B

C

FIG. 23.—SLANT OF PAPER FOR RIGHT-HANDED AND LEFT-HANDED WRITERS.

A, right-handed child writing with upper part of paper to the left; *B*, left-handed child writing with upper part of paper to the right; *C*, incorrect position of paper. Left-handed child writing with paper in wrong position which necessitates grasping the pen with the holder pointing away from the child and toward the top of the paper.

The correlation between spelling and general intelligence is lower than between reading and I.Q. and this is to be expected since spelling is more mechanical than reading and hence can be more easily mastered by drill and rote memory.

Treatment.—Where difficulty in spelling is associated with difficulty in reading the remedial teaching of both subjects should be combined. Each child should be taught according to his individual difficulty. Specially trained teachers are advisable for remedial work in all the fields of language disabilty.

Few words should be learned at a time and short periods of study are to be preferred. Frequently memory will be more precise for small units than for large ones. The child should then be taught to build up longer words from shorter ones as "become" from "be" and "come." Correct and distinct pronunciation is essential in the teaching of spelling. Knowing the meaning of the word will often aid in the correct spelling. As with reading, but to a lesser degree, emotional difficulties may arise because of the child's feeling of inadequacy.

The realization that many of these children who appear backward or even feebleminded are actually of normal or of high intelligence is a most important point and should be appreciated by the parent and pointed out to the child. Emotional difficulties arise because of the child's feeling of inferiority or social inadequacy. These are apt to take the form of attention-demanding behavior or revenge feelings and an attempt to compensate with antisocial acts as lying, stealing, disobedience. Truancy and "wanderlust" may be the direct results of dislike of school. By proper understanding and explanation of the child's disability these behavior difficulties may be avoided; or, having arisen, the child may be encouraged and given confidence in his ability to learn. With improvement in his work the child's behavior difficulties often disappear entirely.

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CHAPTER XVII

PLAY

During Infancy. During the Preschool Years. During the School Years. Sex Differences in Play Interests. Hobbies and Collecting. Books. Parties. Motion Pictures. Radio. Card Playing. Toy and Game List.

Play is a fundamental need during the entire life span. It is not only enjoyable but it provides an outlet for the child's energies and fantasies and permits him to develop his muscles and skills and his imaginative and inventive powers. Play relieves the tension of school work and of extracurricular duties. Through dramatic play, especially, the child can release his natural aggressive tendencies, jealousies, fears and anxieties. Interest is stimulated and effort at creation and construction begins. Make-believe and pretending are important as a means of learning, for here the child has the opportunity of trying out technics without the fear of failure or the necessity of success. Play takes the child out of doors and into companionship with other children. He gradually develops standards for general behavior from association with his friends, he learns the elements of fair play and the first lessons in social living. The child needs the give and take acquired in play with other children to help him develop his self-dependence and a spirit of generosity and fairness.

He needs not only playmates but time to play and a suitable place in which to play. If any of these are curtailed, problems will arise. Without play the child may become bored and fatigued by routine duties. He may become envious of other children's play time and deceitful, or he may run away in an attempt to gain freedom for himself. This takes place more frequently in boys than in girls. If an adequate place for playing is not available he may wander away to seek quarters elsewhere and in this way acquire unsuitable companions. In some instances children have only cellars or hallways to play in. When these are dark and generally unfrequented the children may acquire undesirable habits or may have unfortunate contacts with delinquents or degenerates.

Children should be guarded against early saturation. They should not be exposed to too many amusements lest they become bored and lose interest in the usual entertainments of childhood.

Nothing is gained by disparaging childhood pleasures of which adults disapprove. Parents must contrive to find a balance between giving the child something on his own level of appreciation and helping him to explore what are considered more profitable avenues of pleasure. Play can serve as a wholesome means of escape from a necessarily limited reality.

Before the fourth month the infant is unable to grasp well and objects put into the hand are held by reflex closure and quickly dropped. Even earlier,

however, he seems to enjoy being held and carried about and responds with pleasure to the smile of the mother or other persons. At 4 or 5 months infants can hold objects for a short period and shortly thereafter they start to reach for them. Since all toys are put into the mouth at this age they should be firm, clean and not easily broken. Fuzzy toys are to be avoided. At about 9 months infants enjoy throwing their toys about. Toward the end of the first year they stop putting everything into the mouth and start to explore and manipulate objects in the environment.

From 1 to 2 years there are various types of peg-boards and form boards which interest children and at the same time encourage learning. Rubber blocks are also useful and are preferable to wooden ones as the child uses them mainly to throw about. Somewhat later, when the child starts to build, wooden blocks are more desirable. By using brightly colored blocks, the child may be taught to distinguish colors at 3 or 4 years. The vegetable paints now generally used are harmless.

Small children enjoy throwing balls and running after them. Toys which can be dragged along are liked and children will often walk considerably farther pulling a toy than simply taking a walk. Toys should be sturdy and not readily upset since the young child is quickly discouraged when frequent adjustments of the toy are necessary.

The child under 3 years prefers to play by himself but in the presence of others. There should be a minimum of adult interference so that he may develop initiative and self-assurance.

Toys should be put away when the child is finished with them. From 18 months to 3 years children are naturally orderly and this age period may be used to instil habits of neatness. The child may be made to understand that, if he puts his toys away, he will find them again more easily and also that, when the toys he is not using are put in place, there is more space for him to play.

After 3 years of age the child begins to show an interest in people. As long as another child does not take toys from him he is willing to play with him but taking turns or waiting for turns is difficult. Situations arise when children play together that could not take place if the child played alone or with an adult. If the child wants something he uses force to get it. There is apt to be considerable crying and it is often necessary for an adult to interfere in order to avoid difficulties. Proper adult guidance at this age may be very helpful in acquainting the child with the social experiences which make life easier. Although children under 4 may take part in a loose form of cooperative play such as hide and seek or ball playing each member is still an individual and carries on his own play as such.

Children during this period should be encouraged in play which develops the larger muscles, like climbing, swinging and tricycle riding. Play with large blocks and boxes, pushing about of large toys on wheels and play with water, clay, finger paints and hammer and nails are enjoyed. During the preschool period opportunity to use a great variety of materials is more important than practice at one thing.

Mechanical toys are undesirable. They offer little opportunity for creative

play, they are expensive and too intricate for the young child to manage by himself. In addition, most of them are made of metal and have dangerously sharp edges. An exception is the electric train which is a great favorite with the boy of school age who may continue his interest into adolescence. Many fathers show considerable pleasure in teaching their sons to use electric trains and this may be a valuable way of bringing the father into the child's play.

At about 4 years children enjoy the sand pile, water box and "jungle gym." Wooden shovels and pails are more desirable than tin ones. Celluloid toys or flat wooden barges are preferable to sail boats or mechanical boats since the latter upset and break readily. At this age the child can manage a tricycle. Most children of 4 years can use a hammer and nails intelligently if given a surface such as cork or linoleum or soft wood. Many 4 year olds can draw recognizable objects and practically all can fill in outlined pictures with crayons. They can manipulate a blunt ended scissors fairly well and can paste cutouts on to paper.

After 4 years young children enjoy games or dramatizations which assign parts to certain individuals. Dressing up in costumes and pretending are very popular at this age. There is greater interest in organized play and some equipment is desirable. The young child is frank and honest and most games are played out in fairness, disputes arising only over possession of a toy or over the child's desire to represent some object or person which another child wishes to represent. Leaders begin to develop, although until school age there is a great deal of shifting back and forth. Throughout the preschool period boys and girls play together without differentiation.

At about school age children develop an interest in active play such as roller- and ice-skating, bicycle-riding, swimming. They should be encouraged to improve their performance since proficiency permits a keener enjoyment of the particular activity. It appears that under conditions of praise, reward or criticism school children will make greater effort than without such stimulation. Feelings of failure or of success are very important to the school child in governing what he is willing to undertake.

There is a time in the child's life when practice in certain skills is most effective. Children of the same age vary greatly in their ability to acquire different skills. Although it might seem that the best way to improve ability in any activity is by practice, this is not true unless the child has reached the proper developmental stage. When a particular skill is acquired it is retained over a period of years even though not exercised in the interim. To regain the former standing it takes only a small amount of practice in comparison with that needed when learned.

As the child progresses beyond the early school years his play interests broaden and are concerned to a considerable extent with fantasies. He should be encouraged to create an imaginative world to suit his fantasies but he should at the same time be guided in understanding the somatic world and in accepting its responsibilities.

Girls show greater preference for dolls and dollhouse equipment than boys but many boys also enjoy this play unless they are deterred by the jibes of their parents or older siblings. At 6 or 7 years the play interests of boys and

girls diverge. Most boys prefer vigorous outdoor play and are restless when indoors unless they are interested in drawing, building or some special hobby. They choose active and aggressive games which require skill and a competitive spirit, such as baseball, football, skating, etc. This type of play involves more screaming and fighting and at the same time puts a higher premium on loyalty and fair play. Gang activity is almost limited to boys.

Girls favor quiet play and imaginary situations. The majority continue their interest in dolls throughout the school years and the few who dislike them substitute similar play with stuffed animals. They also play house and school more than do boys. Later on girls show an interest in sewing and cooking and in various other kinds of handiwork such as flower making, jigsaw puzzles and beadwork. Until adolescence they have little interest in group sports and when they are out of doors they prefer walking and skating to games. There is more jealousy and individual competition in the play activities of girls which lead to disharmonies at home, social anxieties and insecurity. Girls are inclined to be more social than boys, attending more parties and dances and more often coming into conflict with their parents over these affairs.

Hobbies and Collecting.—Almost all small children collect useless objects and trade them with their friends. Boys are collectors more frequently than girls but most children pass through the stage of collecting shells, playing cards, match boxes, coins. At a later age, usually after 10 years, boys start collecting seriously, usually coins or stamps, but occasionally other things such as special stones, butterflies, flowers. Hobbies which are time-consuming sometimes grow out of this childish desire to possess. Not all hobbies necessitate collecting. Boys often make model ships and airplanes or raise animals. Both boys and girls interest themselves in photography and do their own developing, enlarging and mounting. Some children gather all available material on one subject or on some part of the world. When this is taken seriously the child may become an expert in this particular field. Girls not infrequently collect personal or sentimental objects such as pictures of cinema stars, theater programs and mementoes of various social events. The child can derive great benefit from a hobby but it may become time-consuming and expensive.

Books.—Picture books are very popular during early childhood. Young children enjoy seeing pictures and hearing stories. The parent of the 1- or 2-year-old should point out and name the various objects and thus help the child to distinguish them. Nursery rhymes and songs are enjoyed. At 14 to 16 months many children can repeat the last word of each line and, at a later age, will repeat the whole verse. Many children of 2 years can carry a tune and they enjoy running, marching and clapping hands to music.

Children of 2 or 3 years enjoy short stories, the child preferring books with colored pictures and only a line or two of explanation. As the child's interest grows he listens eagerly to stories about children, animals and everyday happenings. The young child likes repetition and prefers to have the same books read over and over again.

Fairy stories are very popular at 7 or 8 years and there is no reason to believe that these impossible and sometimes gruesome tales are harmful. Children's

spontaneous choices may serve as indices of their needs for satisfaction. It is not what children read but why that is significant. Some seek to increase their store of information about the world they live in, others to experience vicariously the thrills which the boundaries of everyday living preclude, while still others seek an outlet for desires which they are not permitted to express in social living such as impulses of cruelty, self-pity, heroism, personal prowess, thirst for power and grandeur. The popularity of the traditional folk and fairy tales rests on their ability to satisfy many of these needs.

At 10 or 11 years the reading tastes of boys and girls usually diverge, the boys wanting adventure and hero stories and the girls home stories and stories of everyday happenings. Reading the "funny paper" is a very common form of amusement, taking first place with many boys and girls until 15 years and second or third place in lists of amusement for boys up to 20 years. This is probably a compensatory activity. In this way children may vicariously participate in the activities of the characters and find freedom from the restraints of home and society. It seems likely that older adolescents enjoy the critique of society found in the comic strips. Whether a particular child is finding a compensation or release in the reading of certain books and magazines, or whether he is being corrupted by false conceptions of life and false standards of conduct depends on an understanding of the individual child.

Reading time rises steadily up to about puberty. There is a decline during adolescence, probably because of preoccupation with school work and extra-curricular activities, but interest in reading holds a high place during all of adolescence. Girls turn earlier to fiction, boys being still more interested in travel, adventure and technical literature. Frequently girls read boys' books, but it is unusual to find boys reading books listed as girls'. Boys and girls of high mental ability read more than others. Some children read all day, refusing to go out and play. This is most often dependent on a feeling of inadequacy when with their playmates.

Reading and the theater, though not allowing active participation by the individual, are desirable forms of entertainment and at the same time are educational. The individual often identifies himself with the hero or adventurer and in this way there is participation. Discrimination and judgment in reading may be taught gradually, but many children at adolescence appear to read anything available just for the sake of reading. Parents should not be discouraged. It is often by trying everything that a more discriminating taste is developed.

Parties.—During the preschool period parents enjoy children's parties more than do the children themselves. Nevertheless an occasional party may have a beneficial socializing effect on the child. Parties at this age are best arranged to start after nap time and should include a simple supper so that the daily routine will not be disturbed. There should be few guests, as small children may be frightened and overstimulated in the presence of a great many people. Moreover they play better with only two or three children and quarrels are less apt to occur. It is preferable not to tell the child about the party too far in advance in order to avoid the tense anticipation and possible disappointment if illness or other emergency prevents the child's attendance.

For older children, parties and family gatherings should be simple and should not be allowed to interfere unduly with the child's routine. During the early school years parties may include both boys and girls but after 9 or 10 years until adolescence children usually prefer their own sex. Dancing is not enjoyed before 13 or 14 years but increases in popularity during adolescence.

The pursuit of pleasure is desirable but children should learn that it is necessary to consider limitations of time and money, the convenience of others, the neglect of work and care of one's health. Too many late parties on school days may leave the child fatigued as well as unprepared in his studies so that his school work is affected. When he is worried about his popularity or distressed because he is not invited to certain social functions the child may spend much time in unprofitable anxiety and be unable to concentrate in school thereby not doing as well as he should. Parents should be especially observant of this during adolescence and help their children through this difficult period.

Motion pictures are entertaining and may be educational. Children learn through this medium with surprising rapidity. A disadvantage is the tendency to substitute movies for more active, creative amusements which permit participation by the child. Parents can develop taste and judgment and pass them on to their children in such a way that they will learn to make sound criticism independently. Good movies should be offered and recommended.

The radio is a desirable form of entertainment and education but the choice of programs and the amount of time that should be spent listening to the radio is problematic. Commercial entertainment usually serves the largest public but unfortunately it is often not of the highest quality. It is helpful to distinguish between the content of the radio program and the problems of managing the child's time and the family's comfort and convenience.

Card playing is not to be condemned. It has its place with other games of skill and chance and is good entertainment on occasion. Gambling, even in the simplest form, should be discouraged. It contributes a socially undesirable attitude toward play and toward money and may lead the child into an embarrassing financial situation. Once started it is difficult to discontinue.

TOY AND GAME LIST

6 months	Rattle and ring
8 "	Noisy object to be dropped, rubber animals to chew on
10 "	Kiddy car
12 "	Bell, drum
14 "	Ball
16 "	Toys that may be pulled along the floor, pail, shovel, blocks
18 "	Pencil and paper, peg board, soft animals
2 years	Picture books, dolls and doll carriage, trains, cars, blocks to build up
2½ "	3 wheel bicycle, easy form-boards, bead-stringing, carpet sweepers, lawn mower, nursery rhymes, songs
3 "	Trains on tracks, fire engine, tea sets, sand box, water box, sewing cards
3½ "	More elaborate blocks, hammer and nails
4 "	Tools, full size 3 wheel bicycle, roller skates, story books, costumes, crayons, paint books, simple building from model
5 "	Play house, dolls' house, cooking stove, sleds
6 "	Erector set, ice skates, football helmet and ball, wood burning set, electric train.

7	years	Weaving, metal tapping, marionettes and stage, dolls and dolls' clothes, more costumes, watch, fairy story books to be read to the child
8	"	Steam motor, more elaborate tools, puzzles, 2 wheel bicycle, collecting cards, match boxes, etc., books for child to read
9	"	Football and baseball equipment, checkers, parchesi, etc., building materials, flower making and bead stringing sets, jigsaw puzzles, croquet, ping pong
10	"	Radio, camera, paper dolls, embroidery, collecting sets of stones, animals, etc., boat to row, fishing, etc., movies, skiis
11	"	Developing set, stamp books, furniture for room, interest in clothes, books of adventure and boarding school, fairy tales, tennis
12	"	Chemistry sets, airplane models, interest in sewing and cooking, anagrams, guessing and information games.

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CHAPTER XVIII

TRAINING

Basic Principles. Eating, Breast Feeding, Weaning, Bottle Feeding, Use of Cup, Use of Spoon, Introduction of Solid Foods, Feeding Implements, Manners, General Rules. Sleep. Rectal and Vesical Control. Dressing and Undressing. Cleanliness. Sex Education. Money. Courage and Caution. Responsibility. Religion.

The purpose of training is to inculcate proper habits and to avoid undesirable ones. By habit is meant an acquired way of acting, thinking or feeling. Though this discussion treats mainly of training as related to various mechanical acts, it should be kept in mind that such qualities as honesty, perseverance, thoroughness and courtesy are largely habitual responses.

There are three factors to be considered in establishing a habit. The first is practice; the second is to instil a sense of satisfaction in the learner; the third is to teach the child to work for a goal in spite of disagreeable hindrances. It is not sufficient to teach the child a new technic; he must also be taught to derive satisfaction from his newly acquired powers.

During the period of emerging self-dependence the child is developmentally ready to acquire a large number of technics such as self-feeding, self-washing, undressing, dressing, regulation of bowels and bladder, etc. Training during this period is facilitated by certain characteristics of the young child such as suggestibility, imitativeness and love of praise and applause. By making his skills habitual, the child is freed early in life from the necessity of thinking about routine procedures.

Proper timing is of the utmost importance for the success of training procedures. Because of the wide variability in the tempo of psychologic maturation, the chronologic age is in itself an unreliable index of the degree of readiness, and reliance must be placed on clinical observation of the individual child. The optimal time to train a child is when he indicates a readiness to be trained. Training procedures, introduced prematurely, are not only ineffective but may be actually harmful. Parental disappointment at the child's failure to live up to expectation leads to parent-child conflict and may give the child a sense of anxiety, inadequacy and defeat.

There are disadvantages, also, in waiting too long before instituting training procedures. Failure to permit the child to exercise his emerging potentialities leads to a developmental delay and the child consequently may remain psychologically immature and infantile.

EVIDENCE OF MATURATION

8 to 10 months	Regularity of bowel movement, straining, grunting → bowel training.
10 to 12 months	Holding bottle, drinking orange juice from cup → use of cup.
12 to 15 months	Pulling at diaper, whimpering, ability to sit alone → bladder training.
12 to 14 months	Putting fingers in food, banging spoon → self-feeding.
18 months	Shoes and stockings off → undress and dressing.
18 months	Playing in sand and water → washing.
2 years	Pleasure in routine, neatness → put away clothes and toys.
4 years	Climbing, swinging, sliding → riding bicycle and roller skating.
6 years	Making letters, spells name, picks out letters → reading.
13 to 15 years	Bathing, pressing clothes, clean nails → interest in girls.
	Powder, lipstick, high heels → interest in boys.

EATING

The sucking reflex is present at birth and has been elicited in the fetus. Newborn babies suck vigorously and persistently on anything placed in the mouth and even though no food may be obtained they seem to derive considerable pleasure from this activity. The desire to suck remains strong until the middle of the first year, after which time it decreases in intensity unless it has become habitual, as in the case of children who suck their fingers or pacifiers. Though sucking is universal in healthy infants, the intensity of the reflex varies widely. Some infants appear content with the amount of sucking incidental to taking their food, while others require much more.

Biting movements appear at about the fourth month and chewing movements at about the seventh month. The infant, however, is capable of chewing at a much earlier age and vomiting infants who receive thick cereal feeding in the first month of life chew actively.

Breast Feeding.—Newborn infants take the breast readily. A lack of interest in sucking at this age is most often the result of intracranial injury or malformation of the brain. Difficulties also arise where the mother's nipples are inverted or where there is deformity of the infant's jaws or palate. Maternal overanxiety may lead to unsatisfactory nursing but it is usually possible to soothe the mother and overcome this difficulty. Later in infancy unwillingness to suck is most often attributable to an insufficient milk supply, stomatitis, mouth ulcers, general infection or chronic debilitating disease. The quality of the breast milk is only rarely at fault.

There is general agreement among pediatricians that breast feeding is psychologically preferable to bottle feeding in that it leads to a more affectionate relationship between mother and child. Czerny, a strong advocate of breast feeding, says that, "there is no natural mother love but that a special relationship of the child to the mother is simply the result of an acquired, mutual adjustment. The child recognizes and prizes only the person who feeds and cares for him. Between this person and the child those relationships develop which are most highly valued, when they exist between parents and children. For the child fed by a wet nurse or a nurse, the mother remains a stranger despite the blood relationship and the less often the infant sees the mother the stronger becomes the estrangement. The mother who does not feed the child herself creates, already in

the first year of life, a barrier between herself and the child which is never completely removed later on."

Powers believes that the progress in knowledge of nutrition which has made it possible to rear babies without maternal nursing has been a very mixed blessing. The act of maternal nursing may have just as great importance in the normal unfolding of the emotional life of the child as human milk itself had in the physical development of the baby 25 years ago. He has stated also that maternal nursing, or at least the earnest desire to fulfill that function, is of vital importance in developing the normal emotional relationship between mother and child. It has been observed that rejection is less common among mothers who nurse their infants than among those who resort to artificial feeding. In view of these opinions and observations it seems that no discussion of the relative advantages of breast and artificial feeding is complete without consideration of the psychologic factors involved.

When an interview during pregnancy is possible, a few words regarding the advantages of breast feeding and assurance that nursing need not limit the mother's activities unduly nor increase her weight unreasonably are often sufficient to induce an attitude of willingness or a real desire to nurse the infant. Care must be taken, however, not to stress this subject to such a degree that the mother will feel herself inadequate or blameworthy if it becomes impossible for her to nurse.

There are no data to indicate the optional time for *weaning*. Infants start to make biting movements at about 4 or 5 months and this is the age at which the weight curve of the artificially fed infant crosses and exceeds that of the breast fed. Nowadays it is customary to wean infants between 8 and 10 months. Ordinarily the introduction of a supplementary bottle in the third or fourth month of life and the use of solid foods somewhat later makes weaning a gradual process.

Weaning early in infancy ordinarily presents no difficulties. During the second 6 months of life, however, serious disturbances may arise such as refusal to eat, marked loss of weight, dehydration and intoxication. It is often said that the infant objects to the vehicle, *i.e.*, the bottle, rather than the milk but infants frequently refuse the bottle with milk but take a bottle with water or orange juice readily. The best prophylactic against difficult weaning is the substitution of a bottle with milk for a breast feeding during the first 4 months of life. Infants nursed for 9 months or longer may be weaned directly to the cup.

When difficulty in weaning arises, the relationship between mother and infant should be considered and, in instances where maternal overprotection or overanxiety is pronounced, it may be advisable to try to train the mother away from this attitude before attempting weaning. All efforts at weaning should be made gently and any show of force strictly avoided.

If the infant refuses the bottle but takes solid food well, it is usually possible to give an adequate amount of milk by spoon or cup and by cooking cereals and puddings with milk. It is sometimes helpful to disguise the taste and appearance of the milk with a colored flavoring substance. In infants over 9 months of age permitting the child to hold the bottle or cup is sometimes useful.

Bottle Feeding.—One of the earliest habits to establish is that of drinking from a bottle. Newborns take the bottle readily, difficulties arising only later in infancy. The mother should hold the baby in her arms during feeding, duplicating the position used in breast feeding. A regular schedule of feeding should be prescribed. This not only permits greater accuracy in gauging the amount of food taken but serves to establish a rhythm which becomes increasingly important as the child grows older, since in this way meals become habitual and part of the daily routine. The manner of giving advice regarding feeding schedules is of considerable importance and should vary with the personality of the mother. For oversolicitous mothers who are apt to agitate themselves unnecessarily because of minor infractions of the feeding routine, care should be taken not to stress unduly the feeding schedule. With uninformed or lax mothers, on the other hand, the advantages of a regular schedule must be emphasized.

Use of Cup.—Training for drinking from a cup may be started at 10 to 12 months and the bottle entirely discarded shortly thereafter. A small glass or cup containing 3 or 4 ounces of milk should be used at first so that the infant can handle it and empty it easily. An attractive red or yellow cup is helpful at times. A colored flavoring substance may be added to the milk during the training period although this is rarely necessary.

The cup should be substituted for the bottle at first once a day, preferably at noon. If it is refused at this meal the bottle should not be given as the child is receiving a varied diet at this age and milk at each meal is not essential. If it seems necessary that the infant get his milk, some may be used in cooking the food, an extra bottle of milk may be given after the nap, or 2 or 3 ounces of milk may be added to the other bottles. As soon as 3 or 4 ounces are drunk from the cup at one meal it may be used at every feeding instead of the bottle. The mother should then be instructed to discard the bottles to avoid the temptation to return to them.

Frequently mothers give the cup at each feeding during the day but continue with a bottle at night and at nap time. When the habit of a bedtime bottle is firmly established, it is best broken by substituting a toy. This does away with the sucking and later the toy may be removed as it does not give as much pleasure as the bottle.

Use of the Spoon.—As early as the first month the infant is able to suck liquids from a spoon. Until the introduction of vitamin D concentrates the infant's first use of the spoon was usually in the taking of cod liver oil. This is a quite suitable liquid as it is very viscid and runs off the spoon very slowly. When introduced early in infancy it can be given with a rubber tipped medicine dropper as well as by spoon. Difficulties will be avoided if certain precautions are observed. The spoon should be placed between the infant's lips and the handle tilted upward, so that the oil can be sucked off the spoon. Difficulties arise when the mother, instructed to give the cod liver oil with a spoon, pushes it into the infant's mouth and pours the oil down the pharynx. Objections on the part of the infant in this instance are not to the cod liver oil but to the method of administration; and properly so.

In addition the mother's aversion to cod liver oil may influence her attitude

during the administration and she may in this way cause the infant to acquire a distaste. Cod liver oil, as well as all new foods and medication, should be given with a smile since even a young infant is responsive to the facial expressions of the attendant and the infant may be thus encouraged to like what is presented. The danger of lipoid pneumonia following aspiration is a real one, since cod-liver oil is a potent pulmonary irritant.

The same procedure should be followed in accustoming the infant to the spoon with any other food. Cereal is usually added to the infant's diet at about 3 months of age. This is sticky and runs slowly so is usually successfully administered. More difficulty is apt to occur with liquids such as orange juice or medications. The mother should be specifically instructed not to pour the liquid into the mouth or down the throat.

Introduction of Solid Foods.—The optimal time for introducing solid foods into the diet of an infant is largely a matter of conjecture, the recommended time varying from 2 to 6 months. The young infant is equipped with all the enzymes necessary for the digestion of an adult diet and infants with pyloric stenosis are able to digest and metabolize thick cereal mixtures readily at the age of 2 or 3 weeks. Though the institution of a varied diet early in life may be desirable because of the inclusion of accessory food substances and minerals, no harmful results are observed in infants when the introduction of solid foods is delayed until the second half of the first year. The premature feeding of solid foods may be a factor in the etiology of anorexia in some instances.

When solid foods are introduced the parents should be instructed that no particular food is essential for the infant. If a food is refused the method of preparation and administration should be investigated. If these are found to be satisfactory a substitute should be offered. If the child continues to refuse, attempts at giving solid foods should be deferred for several weeks and the parent told that the time at which solid food may be introduced into the diet of an infant varies considerably. The parent should be warned against being too insistent or showing too much concern. The improper handling of early food refusal is one of the most important causes of anorexia.

Feeding Implements.—At 12 to 14 months the infant may be taught to manage a spoon. If shown at the start that it is an implement for eating and not a toy, there will be little banging and splashing. Spilling is inevitable but this will occur whenever training is started. The mother should place a spoon in the child's hand and show him how to carry it to his mouth. This is not difficult as infants at this age put most things into the mouth. A light spoon with a short handle is useful. A viscid food should be used such as cereal, mashed potato or banana. Children usually enjoy feeding themselves and if the mother assists at the same time with another spoon, sufficient food will be obtained. It is sometimes advisable to have the infant start the meal by feeding himself and have the mother finish it. The added responsibility of self-feeding is an advantage to the child; it gives an interest in food and allows the mother to leave him alone during meals, which is a great aid in avoiding eating difficulties later on. By 14 or 15 months the spoon should be used with only a little spilling and by 2 years the child can be taught to spoon-feed himself entirely and neatly. Most small

children are able to use the spoon only by gripping the handle from above. This may be corrected at about 3 years.

After 2 years a child may be taught to manage a fork. It should be light, broad, short-handled and sufficiently sharp to grasp food. If the child is taught that it is sharp there is little danger of his hurting himself. At 4 or 5 years he may use a dull knife for spreading butter on bread. Later a sharper knife may be substituted and the child taught to cut with it. Usually the knife cannot be managed successfully until the seventh or eighth year.

Manners.—The socially accepted methods of eating should be taught after 2 years. Even earlier, however, the child should be discouraged from eating with his fingers. The opportunity to see adults eat, with an occasional suggestion, is ordinarily adequate and much more effective than constant interference and correction.

General Rules.—If eating is made a habit, to be carried out consistently, efficiently and quickly, without comment or discussion and not treated as a social event or an ordeal, there will probably be few eating difficulties. The child who knows that 20 or 30 minutes are allowed for a meal and that the food will then be removed will be finished in the allotted time. If the food is to be taken away there is no advantage in dawdling over it and then regretting it when it is gone. Food uneaten should be removed without comment. Many children delight in annoying or worrying their mothers by refusing foods, by eating slowly, by ruminating, etc. If the mother shows no annoyance the child derives little satisfaction from the maneuvers and in a few weeks finds that he is the only one who suffers. It is difficult for many mothers to accept this attitude of indifference and their great concern about the child's eating is by far the most frequent reason for eating difficulties. In some instances it is advisable for the mother to give the child his food in a different room and ask him to bring his dishes to her when he is finished. Then there is not as great a temptation for her to urge him to eat and to agitate herself about this. Slow eaters are occasionally encountered in childhood, as in adult life, and should be given some consideration in arranging the eating routine.

When possible meals should be served in a room where there are no distractions such as toys. It is advantageous to have a low table with a comfortable chair so that the child's feet rest on the floor. The food should be well prepared and served and small helpings given so that the child can finish what is on his plate. When he can feed himself fairly well and is eating a general diet, it is advisable to allow him to eat some of his meals with the other members of the family or with other children. Manners will be learned more readily in this way, he will see others enjoying their food and will become a part of a social group.

SLEEP

The newborn infant sleeps practically all the time except when being fed or otherwise disturbed. The periods of sleep are short, lasting 2 to 3 hours, with frequent intervals when the infant is awake for a few minutes. As he grows older the periods of wakefulness are longer and the sleep quieter. It is

only after the first 8 months that the infant sleeps 8 to 10 hours continuously.

From 18 months to 2 years, 12 hours of sleep each night and one sleeping period during the day of one and one-half to 3 hours are usually sufficient. The daily nap should be continued until the sixth year. Children who refuse to sleep should be made to understand that sleep at nap time is not essential, that resting is as beneficial as sleeping.

After early childhood there is considerable variability in the sleeping needs of children. According to Terman, the sleep of 8-year-olds varies from 9 to 12 hours and 9-year-olds from seven and one-half to 12 hours. Insistence on the same number of hours of sleep for all children is, therefore, inadvisable and may lead to difficulties similar to those which arise as a result of a rigid attitude toward diet. There is no reason to believe that making the child sleep longer than he needs will improve him.

PERIODS OF SLEEP

	Total Hours of Sleep per 24 hours.	Character of Sleep
Newborn	22	Irregular.
3 months	18 to 20	Long night sleep.
6 to 11 months	14 to 16	Morning and afternoon naps.
Second year	13 to 14	One nap daily — usually afternoon — 2 hours.
2 to 5 years	12 to 13	One nap daily — usually afternoon — 1 hour.
6 to 13 years	11 hours, decreasing to 9 hours	No nap.

The time for going to bed should be definite but too great rigidity is to be avoided. The child should be warned a few moments before bedtime so that he may have time to finish what he is doing. After he is in bed, the light should be extinguished, the door closed and the child left alone. If possible, the sleeping room should be sufficiently isolated so that sounds from the living room will not be heard as they may stimulate the child's interest and excite his curiosity.

There should be a period of quiet play or a quiet story before bedtime so that the child will be relaxed and calm. He should be put on the toilet, given a drink of water if he is accustomed to it and the complete routine carefully carried out so that there will be no excuse to get up later because of something that has been forgotten.

If possible the child should have his own room, or, if necessary, share it with a sibling of the same sex. After 5 years it is inadvisable for children of different sexes to share a room. Children should not sleep in the same room with a sibling who is approaching puberty or is adolescent.

During the preschool period 11 or 12 hours of sleep and an hour's rest in the afternoon is desirable. When the child attends school the nap must be dispensed with but the sleep at night should continue to be 10 or 12 hours until about 10 years of age. Thereafter less time is required; most children in high school find 9 hours adequate.

Gifted children after the age of 7 years sleep, on the average, about 30 minutes longer than unselected children. The average length of time necessary to fall asleep is 20 minutes and is approximately the same for children of all ages.

Shortening of the sleeping period as the child grows older is due to going to bed later, not getting up earlier.

Going to bed is an unpleasant duty for most children because of the more interesting things they would prefer to do. The small child wants to stay up to play, the grammar school child to read or listen to the radio and the older child to study or read. At the present time the radio is so popular that there is much discussion about staying up to listen to certain programs. Exciting stories and plays may cause disturbed sleep and therefore should not be permitted.

Until adolescence the sleeping schedule should not be disturbed except for unusual and important reasons. When the child is older and has learned to sleep in the morning a special routine may be arranged for the nights when there is no school on the following day. The child may be allowed to stay up later and then sleep longer the next morning. This privilege should not be too frequently granted and in general the high school child should be expected to be in bed by 10 o'clock.

Studying is used as an excuse by the older child to stay up beyond his customary time. The parent should examine his schedule and see if there is adequate time for study without interfering with sleep. If not the school situation should be investigated. The child may misunderstand what is expected of him, or he may be placed in a class which is too advanced for him so that he cannot finish his studying in a reasonable time.

RECTAL AND VESICAL CONTROL

In training for defecation and micturition the process of modifying an automatic function and placing it under voluntary control is achieved by means of two mechanisms: (1) Through a process of conditioning, the child learns to defecate or urinate when placed on the toilet and to retain the stool or urine during the intervals. (2) As maturation proceeds the infant learns to express his needs, thereby assuming a degree of responsibility for the act. Young infants may frequently be conditioned to the toilet; they cannot, however, be expected to assume any responsibility for the act before the last trimester of the first year or even later and this is consequently the most suitable time to begin training.

Though more readily conditioned to the toilet than older infants, young infants forget more quickly and complete control is slower. The strain on the parent is greater and an undesirable tenseness may arise in relation to toilet training. The child may become resistant to training, restive and hyperirritable. In most instances an infant trained solely by conditioned reflex must be retrained later for voluntary control.

The toilet situation should be free from distractions such as food or toys. The eliminative functions should be conditioned only to the toilet.

Training can be facilitated if the mother will watch for warning signs and heed them promptly. These are especially important since they are the first indications that the infant is assuming responsibility for the situation. The earliest warnings are fussing, whimpering, straining and general irritability or restlessness; later there are gestures such as pulling at the diaper and vocalized

warnings. The mother should use a word such as "toilet" so that the child may associate the word with the act of elimination. Substitute words are unnecessary and should be discouraged since the substitute may not be understood by strangers.

Training for Rectal Control.—When the stools are passed at approximately the same time each day, the infant should be placed on the toilet at the expected time. He is supported on the receptacle in a semisitting position with the back and head resting against the mother and the mother's hands grasping the two thighs. If the same position is always used an association with bowel evacuation is quickly established. Two to 3 minutes are long enough to hold him over the receptacle. If there is no result he should be returned to bed without comment; if he has been successful a few words "that's right" or "that's what mother wanted" may be said, so that he learns that he has done what is expected. Much comment or emotion should be avoided in any case. Defecation should be a matter of routine and not an occasion for rejoicing or for agitation. Most infants can be trained by 11 to 14 months, some earlier, although some normal children may not be trained until the end of the second year.

If defecation is irregular, training is more difficult and need not be begun until the end of the first year. Sometimes merely placing the child on the receptacle at regular intervals will suffice to stimulate defecation. This may at first be done after every feeding. When the infant comprehends and has a bowel movement in the receptacle most of the time, the interval may be lengthened to alternate feedings and finally to twice or once a day. Although the process of training is longer, with perseverance these infants may be trained by 15 or 18 months.

The practice of inserting an object into the rectum such as a thermometer, rubber tube, suppository or the mother's finger tip in order to stimulate a bowel movement is to be discouraged. Bowel evacuation is thus established in response to an artificial stimulus and an undesirable habit may result in this way. Furthermore, this practice directs the attention of the infant to the anal region and may arouse undesirable interest. The anal region is so near the genitals that these sensations may be communicated to the sex organs and lead to masturbation.

Training for Vesical Control.—The urine during the first few days of life is scant, concentrated and highly colored and anuria for 12 or 24 hours is not uncommon. With the establishment of a full feeding schedule on the third or fourth day of life the amount of urine increases and the concentration diminishes. Infants urinate frequently, sometimes as often as 60 times a day, depending on the amount of fluid ingested. After the second year children urinate from 4 to 6 times a day but there is considerable variability.

Bladder training is best begun at 12 to 15 months of age, after rectal control has been to some extent established and when the infant can sit without support. In the process of bowel training the infant learns to void in the receptacle since micturition ordinarily accompanies defecation.

The training procedure is as follows: The infant is placed on the toilet at definite times during the day, preferably in relation to some event in the daily

routine so that an association may be established, *e.g.*, at waking in the morning and after nap time, before and after meals, after coming in from outdoors and at bedtime. At the outset it is especially important to select times when the infant is expected to urinate so that the voiding response may be conditioned to the contact stimulus of the toilet seat. Since the infant usually voids within a few minutes after awakening, he should be placed on the toilet immediately after naps. The toilet seat should be comfortable with adequate back support. No longer than 2 or 3 minutes on the toilet should be permitted. With a little training infants with urine in the bladder will void almost immediately after being seated. If they remain on the toilet seat too long or are placed on it too often resistance may develop. When the infant can sit steadily without support it is advisable to teach the use of the adult toilet seat, placing the child with the face toward the wall.

When the infant has learned to urinate in the toilet at the times mentioned and to remain fairly dry during the intervals, the time between voidings is lengthened, most conveniently at first, omitting the periods before meals. Until he has learned to indicate when he wishes to urinate, it is usually necessary to place him on the toilet 8 or 9 times a day. At first, when he urinates in the toilet, mild satisfaction may be voiced. Failures should not be treated with scoldings, shaming, punishing, or any show of emotion on the part of the parent.

As soon as the child is fairly dry during the day, pants may be substituted for the diaper. Sometimes this has a remarkable effect in lessening frequency of urination. Under ordinary circumstances the normal child may be taught vesical control during the day by the middle of the second year although such control is usually not complete. It is inadvisable to awaken the child at night for micturition unless night wetting persists after the second year of life.

Boys are more difficult to train than girls. They void somewhat more often and show greater variation in their frequency of voiding. Boys may be taught to stand at the toilet after they are 2 or 3 years old.

The greatest hindrance to bladder training is an irregular routine. A certain amount of irregularity is unavoidable and not serious; but when laxity becomes habitual the child often forgets one day what he has learned the day before.

Some infants scream whenever placed on the toilet seat, after having accepted it for a time. In such instances, the child has probably been conditioned against the toilet situation by some trifle which has been overlooked, such as the coldness of the seat or by having slipped and nearly fallen. Another type of toilet should be used and the position of the child changed. If these maneuvers are unsuccessful all attempts at training should be discontinued for 2 weeks during which time the disagreeable incident will usually be forgotten.

Relapses in training are not uncommon and coincide with rapid advancement in other aspects of development and with the widening interests of the child.

DRESSING AND UNDRESSING

Toward the end of the first year most infants attempt to help in dressing and undressing. They put up their arms to have their shirts put on and extend their

feet for stockings and shoes. They shift their positions to facilitate pinning of diapers, doing buttons, etc. This is evidence that they are ready to learn to do these things for themselves. If the parent continues to do everything for the child for too long a period he will lose interest in dressing or undressing and will insist upon the parent doing this for him. This is particularly apt to take place where the parents are overprotecting.

At about 14 months many infants can remove their stockings and hats. By 2 years most children can take off all their clothes except sweaters and tight garments going over the head. As soon as they can walk easily, they may be taught to assist at putting their clothes away and hooks should be provided for this purpose. At 3 years the child should be able to undress and dress himself entirely except for bows, back buttons and tight clothing. He should be encouraged to do as much as he can. Most children are quite willing to accept this routine if they are not hurried and many enjoy it. A reminder to keep going or an occasional word of encouragement is helpful but dressing should be accepted as a matter of course and the child should not be praised or too much attention paid to this achievement. Parental patience will be rewarded by the child's ability to take care of himself.

CLEANLINESS

Children can be taught to wash themselves fairly efficiently by 2 years, brush the teeth a little later and by 4 years they should be able to bathe themselves entirely and brush their hair fairly well. With a little help from the mother these procedures readily become routine and discussion about them with the child is avoided. Some overprotecting mothers take pleasure in washing their children and it is not unusual to see children of school age continue to be bathed by their mothers.

At 7 or 8 years of age most boys become negligent about their appearance. They need to be reminded to take baths and they wash only when urged. They pay little attention to their clothes and frequently go about with shirt-tails out, socks down and shoe-laces untied. This indifference toward cleanliness and clothes continues until 12 or 13 years of age, but even before this most boys show an awareness of their appearance on special occasions. They like to look nice if they are going out some place or with someone whom they particularly admire. With the advent of adolescence boys become more conscious of themeslves, take better care of their bodies and concern themselves about their clothes but even at this age carelessness about clothes and hair is common.

Girls are, for the most part, much neater and cleaner than boys. They seem to be able to make a better job of washing and bathing and, in general, are more conscious of their appearance throughout childhood. At 9 or 10 years of age their rooms are apt to be untidy but this is only temporary and they soon develop a strong interest in the furnishings and decorations of their rooms.

During adolescence the attitude toward clothes changes. It becomes very important to appear grown-up. Dresses must be lengthened and silk stockings and high-heeled shoes must be included in the wardrobe. Cosmetics are used, at first

secretly or only in the company of intimate friends, and a great deal of time is spent before the mirror. The adolescent girl feels that appearance is enormously important and that popularity with boys depends largely on the clothes she wears.

SEX EDUCATION

The child's interest in sex varies with age and questions should be answered by the parent with due consideration to the child's development and understanding. Information given honestly will be accepted in the proper spirit. When questions are not asked it is usually because the child senses parental shyness and embarrassment. Situations should be chosen in which instruction may be given readily and naturally. It is unnecessary to invent situations or to find similarities in plant and animal life. If a suitable comparison is at hand it may be used, but ordinarily the digression from the questions asked is apparent to the child and confuses him.

In discussing sex problems with the child it is wise to allow him to express himself freely and in his own terms. In this way the parent will learn what his misconceptions are and what specific problems are troubling him. Furthermore in this way he will lose any feelings of impropriety and guilt which he may have acquired. It is important to keep in mind that the child is often puzzled by some particular aspect of the sex problem and that he wants an answer to his question rather than a general discussion of the subject.

All normal children ask questions on various subjects. It is natural that questions about sex should be included and it should be understood that at first they have no significance different from any other question. They are merely a means of obtaining information. Most children begin to inquire about sex at 4 or 5 years and continue, if not discouraged, up to 10 years after which there is a decline in questions. Young children are satisfied with a very small amount of information and will often revert to the same questions again and again. They ask about the source of the excreta, the possession of the penis, differences in the sex organs, nudity. The parent should equip himself with knowledge and a vocabulary which is adequate for this explanation. According to Conn children show great embarrassment and reluctance in naming the genital organs owing to training by the parents. The parent should avoid any show of disgust at questions about micturition and defecation since this attitude may become associated in the child's mind with the sex organs.

Awareness of the differences in the configuration of the genitals appears early, and is mentioned by about 50 per cent of children between 4 and 6 years of age. In most instances the differences are accepted calmly. Some children react with surprise and a few feel that the female genital had once been like the male but had been cut off, broken or lost. Children's questions about this should be answered and the advantages of the child's own sex should be stressed.

The questions which children of school age want to have answered, whether they ask them or not, are the origin of babies, the process of birth, the father's part in reproduction, the sex organs and their functions and marriage. Great detail is unnecessary and often confusing. It is preferable to answer each question

simply but adequately and then to allow the child to ask another question. By 10 or 11 years of age many children who have not received adequate instruction become disturbed and worry about what the facts really are. They attempt to remedy deficiencies in their knowledge by whispered conferences with their friends, personal investigation and reading books. Girls, in particular, may become resentful because of parental failure in this all important phase and they may refuse to listen to any information which is offered. They are apt to become moody and worried. This can be forestalled by instruction during the early school years even if, as sometimes happens, the child does not ask questions. Giving him a book from which to obtain sex information is hardly adequate. Although all the necessary information may be included, it is frequently not suited to the individual needs of the child and may not answer the specific questions which are troubling him. The parent may be aided considerably by reading. The clear ideas, simple vocabulary and logical discussion found in books written especially for parents will be of assistance in answering the child's questions and in discussing his physical and emotional development with him.

TEXTS ON SEX EDUCATION FOR PARENTS

AMER. SOCIAL HYGIENE ASSOC. New York. Many pamphlets including: *From Boy to Man; Health for Girls; Parents and Sex Education; Sex Education in the Home; The Way Life Begins; The Question of Petting.*

DENNETT, M. W. *The Sex Side of Life,* Astoria, L. I. 21 Singer St. 1927.

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LEVINE, M. I. and SELIGMANN, J. H. *The Wonder of Life; How We are Born and How We Grow up.* New York. Simon and Schuster, 1940.

MASTURBATION IN CHILDREN, *Rational Living Library, No. 8,* New York, 1936.

* DE SCHWEINITZ, K. *Growing Up,* New York, Macmillan Co., 1928.

* STRAIN, F. B. *Being Born,* New York, D. Appleton-Century Co., 1936.

* For the preadolescent and adolescent child.

Parents should prepare the preadolescent for the development and appearance of secondary sex characteristics. It is probably not necessary to give an explanation of the meaning and reason for these changes until they actually take place. Girls should be instructed about menstruation, development of the breasts, changes in body configuration. The father can ordinarily discuss matters of sex most helpfully with the boy. The boy should be prepared to expect the occasional emission of semen. He should understand that this, like the erection, is a natural occurrence and that it is nature's method for taking care of sex activity until he is mature enough to assume the responsibility of mating. He need not be disturbed by these occurrences if he leads a healthy, vigorous life with plenty of hard work and play. Instruction should be more than a cold, scientific description of the physiology of conception, pregnancy and birth. It should include an understanding of the normal development at this age and an explanation of the

emotional changes which customarily take place. The purpose of instruction is not only to prepare the child for a satisfactory sex life when he is mature but to help him through the period of developing sex emotions of preadolescence and adolescence.

Embarrassment about discussing sex questions may be allayed considerably if the subject is brought up by the physician in the presence of parent and child.

Normal preference for one's own sex during early adolescence, which develops at times into "crushes," should be explained and discussed with the child. He should be helped to realize that a gradual change to admiration and love of the other sex will occur. Forewarning him of the inconstancy and intensity of "calf love" will give him greater understanding and help to carry him more easily through these years.

Parents should try to understand the sex needs of the adolescent. A cheerful, matter of fact, interested but not obviously watchful, attitude will help the child through his periods of uncertainty. To ridicule early infatuations or make the child feel guilty because of something he has said or written is to risk losing his confidence and preclude the possibility of helping and guiding his later love experiences. Instead he should be shown how to satisfy his desires by wholesome association with the other sex in conversation, sports and dancing. During this period children should have many opportunities to meet, work with and play with young people of both sexes who are attractive and of appropriate age. It must not be forgotten that adolescent sex emotions are quite unlike adult reactions in both quality and intensity.

Understanding that the sex act without love is in itself incomplete will often keep a child from unpremeditated actions. Respect for the human body and respect for other human beings will usually deter one person from using another for his own personal gratification and pleasure. The child's efforts to control his desires will be guided by the example of the people he loves and respects. In the natural course of events he gradually learns that self-restraint consists of the ability to give up immediate and relatively trivial pleasures in order to obtain happiness of a more lasting and deeper nature at a later time.

It is not enough to tell the child about sex and love. He should have the opportunity to live in a home built on mutual understanding, companionship and affection. His parents' understanding and attitude toward sex are most important in molding his sex behavior and point of view. Through the example of his parents he will learn more of human relationships and responsibilities than through any amount of formal instruction. If he sees in his parents a satisfactory relationship his sense of security will be increased and he will more readily and easily work out a satisfactory sex life for himself.

During adolescence both girls and boys should understand the simple fact that the sex act may lead to conception. They should be taught to realize the consequences of illegitimacy, the fallibility of popular methods of contraception and the dangers of abortion in the hands of incompetent practitioners. Understanding and education serve as the best protection against extramarital sex acts. Should pregnancy occur it is essential that the parents assure their daughter of their understanding and willingness to be of assistance. She should not have to

fear that she has forfeited her parents' love and trust and thus be tempted to face the hazards of such a situation alone and in secret. Sex education should include, in addition, some knowledge of the venereal diseases, the modes of transmission, prophylaxis, symptoms, sequelae and treatment.

It is wise to instruct the adolescent about the existence of homosexuality and to discuss it sufficiently so that he will have an understanding of the condition should he be confronted with it.

MONEY

Children do not understand the usefulness of money until about 5 years of age. During the early years the penny is something to have, not something to use.

The child should receive his allowance without restricting conditions. The money belongs to him through his status as a member of the family group and not by virtue of any contribution to the family welfare which he may have made. An allowance is not given out of generosity or good will and is neither compensation for services nor reward for merit. The giving of the allowance must be dissociated from the feelings of the moment and the child should not be required to feel grateful. Rewards and fines of money are to be discouraged.

The child needs money as he needs books, pencils or other objects in order to become familiar with its uses, its limitations and its potentialities. The child's allowance should belong to him to spend, save, give away or even lose. There should be no more restrictions than on his other possessions. He should not wilfully destroy his clothes nor carelessly soil and tear his books and in the same way he should learn to take care of his money. He should be allowed to make some mistakes but not at too great a cost either to himself or the family budget. By discussion and suggestion it is possible to guide a child's money experience toward success and satisfaction rather than to allow him to learn by trial and error entirely. The issue of good financial judgment and good social judgment should not be confused. The child may get value for what he has purchased but the object may not be desirable or suited to his age.

The amount of money which a child receives should depend on his age, development and needs, on the financial status of the family and, to some degree, on the amount received by his friends. Spacing of the allowance is important. With young children the interval should be short but later on a longer interval is advisable so that they may learn to anticipate and plan. An allowance may mean the pleasure of immediate indulgence of trifling whims but most children quickly learn the advantage of deferring expenditures for more favorable purchasing in the future. Saving should be thought of as a device for buying something that costs more than one has at the moment.

The child should learn the elements of borrowing and lending as well as spending. He may borrow money but it should be repaid at a specified time. Just so if he is willing to make a temporary sacrifice he may lend money to be repaid at a particular time but he should insist upon payment. His parents should assist him to understand that he has to curtail his desires if the money is not returned to him so that he may see the harm which befalls the careless lender.

The child needs to have money to spend before he can earn it but later he may be able to increase his income by working. His allowance should increase as well as his responsibility for its use as he grows older. At 10 or 11 years he can assume responsibility for carfare, lunch and school supplies. A little later small expenditures for clothing should be included and by high school or college age he may be able to assume full responsibility for supplies, clothing and pleasures. This progression is desirable since it satisfies the maturing child's desire for power and gives him experience in the use of money.

The size of allowance is subject to examination and the parent and child can plan the amount needed from year to year. The child should stay within his allowance and suffer the consequences of unwise spending. In general he should be required to wait for his next allowance, but he should feel free to discuss with his parents added obligations which have arisen or unforeseen purchases which he must or wishes very much to make. There is sometimes good cause for an increase in the allowance and this freedom of discussion will benefit both parent and child.

As the child matures he should understand the important facts about the family's financial status so that he can see his income and responsibilities in relation to those of the family. During periods of reverse it may be necessary to curtail the allowance but it should not be entirely abandoned. The child can share the parents' concern but he should be protected from the parents' panic.

Experience in earning money outside the home is valuable especially for the 12 to 16 year old child. He learns that he is paid only for satisfactory work, that the reputation he makes is at least as valuable as the money received, and that he must not only do his work satisfactorily but even better, if he is to be considered outstanding in his work. The earnings of the school child should not mean the curtailment of his allowance though, at times, an arrangement may be made whereby part of the earnings are added to the family budget. In small communities exchange of work between families where one pays another's child is advantageous. This helps to solve the problem of how a child may do work which is needed by his employer and thereby earn a reasonable recompense. Many children work better for strangers than for their parents.

The child should share in the duties about the home without extra compensation. Some chores which would require outside help if he were not present may be paid for but he should then have the privilege of refusing the work and the remuneration.

COURAGE AND CAUTION

Life involves many risks. The young child should not be exposed to hazardous situations alone until he is equipped to face them. With increasing age and understanding he must learn to assume gradually more and more responsibility for his own safety and he must acquire intelligent judgment, so that he may have the equipment and the courage necessary to meet emergencies calmly. The parental example is of great value. The child should be taught how to meet reverses and to be a good loser but one must avoid putting too great a strain upon him by making demands which are unreasonable or beyond his ability.

Courage should not be confused with foolhardiness. Conduct which is made up of impulsiveness and ignorance of the risks involved is different from courage which implies a control of the emotions and an ability to face danger and conquer fear.

Fear is to be distinguished from caution which is a reasoned process. It "is a thoughtful, unemotional measuring of the extent of the danger against one's own capacity and equipment for meeting it" (Brickner and Frank).

RESPONSIBILITY

Successful living in a free society necessitates numerous responsibilities; responsibility to make oneself self-sustaining, self-directing, respected; responsibility to the family group, parents, grandparents, children; responsibility to employer and employee; responsibility to the community; responsibility toward less fortunate members of society; regard for the rights and feelings of others. These are best instilled in the child by example and precept.

RELIGION

Most children of school age need the security of being able to associate themselves, at least in name, with a religious group. They are as frequently asked by school friends what church they attend as what nationality they are. Further than this, specific religious instruction must be left to individual decision.

The history of religion and familiarity with the bible are included in the education of most children and bible stories are as familiar as fairy stories to many 5 and 6 year olds. Young children live, to a considerable extent, in a make-believe world and are credulous, accepting without discrimination what they are told, hence early religious training has a strong effect. In teaching religious subjects and in answering questions the presentation of adult concepts should be avoided since many of these are meaningless to the child and lead to confusion. Simplicity is essential. The child will benefit through an understanding of respect and reverence. The influence of an understanding, intelligent Sunday School teacher or a good and respected preacher may be valuable. Religion should give the child a sense of security, confidence and hope.

The school-age child should become familiar with religious conversation and include in his vocabulary the common words of religious thinking so that he will be at ease when the subject is discussed in his presence. Occasionally the religious feeling becomes distorted and an attitude of superiority toward those of different faiths develops. This is to be avoided at all costs since it is the antithesis of true religious teaching.

In interpreting God certain pitfalls should be avoided. The concept of God as all-powerful and all-directing is misinterpreted by some children who may refuse responsibility for their personal conduct, saying, as an excuse for bad behavior, "God made me do it." Sin, temptation and punishment are hard for the child to comprehend. Anxiety and apprehension may result from threats that God will see and punish him if he misbehaves and fearful and foolish con-

ceptions may distort his spiritual feelings. Some children "sin" so that they may experience the joy of forgiveness, others desire punishment to relieve them of their sense of guilt. Both are distorted reactions.

The determination of the parents to impose religious standards on the child may lead to conflict. Severe discipline and strict rules often result in open rebellion. On the other hand the parent who does not value religious teachings can hardly expect his child to attend church. It is not uncommon for a parent to question some teachings and still respect spiritual leadership and moral teachings and so bring up his child in an atmosphere of religious understanding and respect.

No child is able to make a free choice of religion. He is always influenced by the attitudes of others around him and by the church and Sunday School which he attends. The early training of the child will frequently exert an influence on his later life even though he feels he has abandoned the beliefs which he previously held. These beliefs may be completely in conflict with his later ideas and neuroses and anxieties may result.

Every child should be taught certain codes of conduct and by many this is considered the essence of religion. May and Hartshorne found that children were influenced in their moral conduct mainly by their parents and groups of intimate friends and little by attendance at Sunday School or church. Children should be helped to differentiate right from wrong, honesty from dishonesty and why. They should also be taught to act in accordance with these conceptions and to take responsibility for their conduct. Love, kindness and understanding are qualities which should be stressed in the child's upbringing. These are best acquired through the example of the parents.

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CHAPTER XIX

DISCIPLINE

General Principles. Discipline During Early Childhood. Disciplinary Methods, Physical Punishment, Scolding, Deprivation of Privileges, Isolation. Discipline During Adolescence.

Training and discipline are implements to direct the child's energies into acceptable channels, to assist him in outgrowing less mature modes of behavior, and to curb excessive emotional demands. Training implies active encouragement, discipline implies restraint.

Permitting the child an outlet for his developing skills and feelings does not mean that he is to be indulged without limit. To hold or rock the child all the time is hardly conducive to the training of a well-balanced personality. Such conduct only sharpens the demands of the child and leads to an egocentricity which is highly undesirable. The child reared without discipline has only a false freedom, for without the help of adult guidance and control he grows up uncontrolled and insecure, uncertain of what to do and what not to do, slow in making decisions and angry when he has made the wrong one.

Disciplinary action, in order to justify itself, must serve a useful purpose and should not be made to serve as an outlet for the disciplinarian's offended sense of dignity or as an emotional release for the parent. The purpose of discipline is not to make the child obey. The parent must learn to accept failure and poor behavior on the part of the child without feeling personally thwarted. The relationship between parent and child must not be jeopardized by the method of discipline and the parent should avoid vindictiveness and resentment. The attitude of the parent should be reasonable and not arbitrary. In so far as discipline involves frustration or deprivation it is important that it be made emotionally acceptable to the child by giving adequate reassurance of affection and concern.

The parent should not discipline the child by threatening to withdraw his or her love or to try to obtain compliance by asking the child to do it "if you love mother, etc." Many parents do this, seemingly unaware of the extent to which they are coercing the child unfairly and unwisely and exploiting his dependence upon them by such a formula. Persuasion is a poor method of discipline.

Discipline During Early Childhood.—The desires of young children often run counter to the precepts and judgments of their parents. Their resistance to commands is not so much a revolt against authority as an effort to carry out their plans without interruption or interference. The child should be permitted to experiment and to act on his own initiative to the extent that he is intellectually capable, but his conclusions should be reasonably controlled. He should have increasing freedom as his legitimate needs and capacities grow, but this freedom

must be limited by his ability to take responsibility. He should be told the reasons for restrictions and the consequences which might result from transgressions. He should be encouraged to use his own judgment wherever possible, but this cannot be done without direction and guidance. Turning the child loose does not make him independent. Authority, which is firm, kind, reasonable and consistent gives the child that sense of security which is essential for his emotional development since it defines for him the limits beyond which he may not exert his independence. Parental hesitation and discussion often lead to negativism. In the administration of disciplinary measures a sense of humor in both parent and child is invaluable.

The *infant* has little control over his impulses and does not understand his relation to other individuals and objects except by what he is permitted to do. Hence the need for discipline.

The environment should be free from too many restrictions. To the infant the surrounding world is stimulating and interesting and, within reasonable limits, the environment rather than the child should be manipulated. Objects which are breakable, easily soiled, or harmful should be placed, wherever possible, beyond his reach. Nevertheless he should be taught a certain consideration for others and for their property. Discipline is necessary in order to teach self-restraint.

To be effective, punishment for *young children* should be brief and should be meted out immediately after the offending act has been perpetrated. The offender should be taught to realize that he has done something undesirable, that he has paid for his wrong-doing by being punished and that the episode is over and forgotten. He should not be permitted to feel continued disapproval. At a later age it is desirable to have him understand why an act is punishable but this is obviously impossible before 2 or 3 years.

Young children may be disciplined by a sharply enunciated "no," by a cross look, or by a light slap on the hand. These act as conditioning stimuli just as the loud noise of falling dishes or a burn on the hand from a hot radiator will inhibit action the next time the infant reaches for the table cloth or puts his hand near something hot. For the small child, if pain, discomfort or disapproval follow almost automatically upon misbehavior, he will soon realize that undesirable behavior brings unpleasant results and he will therefore learn not to repeat the offense. If the parent maintains an affectionate, understanding attitude even while voicing disapproval, there will be little chance that feelings of revenge and resentment will develop.

Too much self-control must not be expected of a young child. He should be protected against temptations until he has matured to the stage where he can be expected to resist them. So, also, he should not be asked to make promises. He is incapable of remembering directions for long periods of time and often, if he forgets and breaks his promise, he is scolded both for disobeying originally and for not keeping his word. A young child does not comprehend the meaning of honor or trustworthiness.

Young children are fundamentally truthful and usually admit their transgressions readily until they learn that they will be punished if they are found out but will escape if their misconduct is not discovered. The parent should be careful

to avoid situations of this sort. It is prefereable to give a certain amount of credit and even lighten the punishment if the child is honest enough to admit what he has done.

DISCIPLINARY METHODS

Ordinarily the first offense should be punished if the child is aware of his fault. Punishment involves pain and, to be effective, the pain inflicted must be greater than the pleasure derived from a given act. When the punishment is over, the entire matter should be promptly dismissed and the child reinstated in the family group. He should not be permitted to feel continued disapproval as this may give rise to feelings of inadequacy, guilt and insecurity. If the misdemeanor is repeated the punishment should be more severe than the first time, but there should be no threat of future punishment. Little is to be gained by threats and a sensitive child may be seriously frightened. The child should know what is expected of him, that it is to his advantage to obey and that if he disobeys he will surely be disciplined. Threats give the child, to some extent, at least, the choice of committing the misdemeanor and taking the punishment or of behaving properly. Moreover it may not be convenient for the parent to carry out a particular threat and in such an eventuality the child feels that he has been able to get away with misbehavior and will be tempted to try again. Furthermore there is loss of confidence in the parent's word. The threat of punishment by the father when he returns home leads not only to dread and dislike of the father but gives the child ample time to become fearful and anxious over the type of punishment he may receive and to plan ways of escape or revenge. Frequently the child is threatened with something or someone with whom he may have contact at another time such as the hospital or the doctor and when he must go to the hospital or meet the doctor he experiences intense fear. Threats sometimes lead to irrational fears and acute anxieties at a later time.

Punishment should be inevitable and immediate and calculated to fit the intellectual and moral development of the child. Protracted punishments are harmful. Withdrawal of parental approval for a long time, repeated references to the misdeed and continual nagging at first worry and distress the child, then irritate him and finally lead to antagonism and revenge feelings. If misbehavior remains unpunished the child may develop a feeling of guilt and may try to punish himself by hiding in a closet, by hurting himself or by asking to be spanked.

Physical punishment, except when used for the purpose of giving a conditioned response in a young child, has no place as a disciplinary technic. The objections to it are three-fold: First, the parent, because of his physical superiority, takes unfair advantage of the child; second, as the result of corporal punishment, especially spanking, some children develop "erotic zones" and come to enjoy this experience; and third, the parents sometimes experience a sense of pleasure and superiority in inflicting physical pain on the child. This may lead to sadistic tendencies or cruelty toward the child and the parent may in this way serve as an example for the child to follow in his dealings with smaller children. More-

over physical punishment is usually undertaken in anger when the parent is not in control of his temper.

After the first 2 or 3 years of life probably the most effective means of punishment are scolding, deprivation of privileges and isolation. The advantages of these methods are: (1) that no physical pain is involved, (2) that the duration and severity of punishment may be varied, (3) that there is not a long period for the child to feel abused and to consider revenge, (4) that when the punishment is over the child may be reinstated in the family circle and (5) that there is no element of the parents' personal feelings involved. The child should be made to understand why the act which he committed was undesirable and therefore punishable. When the punishment is over there should be an immediate clearing of the atmosphere.

While discipline is essential, it is important for the parent to give the child evidence of his satisfaction with good behavior. This is best shown by words and smiles, by social approval and by pointing out how his position in the group becomes more important because of improved social behavior.

When *isolation* is used as a punitive measure it should be made clear that the intent of the punishment is removal from the group because of antisocial behavior. No emphasis should be put on the place of isolation and the parent should never threaten the child with confinement in any particular place. He should not be confined to his room as this may condition him unpleasantly against a place which he should enjoy and where he should feel free. Similarly, going to bed should not be used as punishment since rest and bed should be pleasant with no unhappy associations. The child should not be isolated in any place where he may be afraid, such as an attic, a lonely room or a closet, since this may lead to fear of the dark or fear of being alone or may give him an undesirable emotional shock. He should not be left alone long enough to meditate on methods of revenge. The parent should take the initiative and invite him to return to the group, assuming that he is going to behave. There should be no threat of desertion by the parents.

After the third or fourth year it is usually possible to reason with the child but it is undesirable to establish the custom of prolonged discussions over misbehavior. Too many children enjoy the added attention obtained in this way and so continue the discussion beyond all reason. Silence on the part of the parent is often successful when talking is an obstruction. There is little use in trying to reason with a child immediately after he has been punished and it is valueless to insist on repentance, because, when forced, it is seldom sincere. It is often preferable to let the child "save his face."

Many children misbehave for the sole purpose of getting attention. Some of these are overprotected children who require excessive amounts of attention while others are rejected children whose only means of calling attention to themselves is by misbehavior. In such instances the child should receive attention when he behaves, not when he misbehaves.

Whenever possible there should be some relationship between the type of punishment and the nature of the misdemeanor. Thus it may be pointed out that immature behavior is punished by deprivation of some more grown-up privi-

lege. One must be careful that overseverity does not discourage the child's initiative. Often there is good reason why a child misbehaves and this should be looked for and corrected. If the child is improperly placed in school and therefore worried and unhappy it is easy to understand why he dawdles while dressing, fusses about breakfast and is late in getting to school. A different class or transfer to another school may remove the difficulties entirely. It is important to try to understand the child's point of view, thereby eliminating the possibility of his feeling that he is misunderstood and unjustly punished.

If the child can be taught that life is pleasanter when he is well-behaved than when he is naughty he will soon come to understand the advantage of proper conduct. Many disciplinary problems should never have been allowed to occur. When the parent is inconsistent the child often does something which is not acceptable without realizing it. Thus the child may be sent to the movies one day to get him out of the way while the mother is busy, and the next day, if he goes, he may be scolded for not staying at home and keeping her company. Furthermore, where the parents disagree about what the child may do, he naturally follows the commands of the one whose ideas more nearly fall in with his own, thereby disobeying the other parent. Where important and unimportant transgressions are treated by the parent with equal severity the child frequently becomes confused and discouraged and assumes the attitude of not caring and carrying out his own ideas without regard to the punishment he is likely to receive. Parents who lack self-confidence and are themselves insecure are likely to be rigid disciplinarians and to be unduly severe in the punishment of their children.

Situations should not be created which will tempt the child to misbehave. It is unfair to leave candy and money about in order to see if the child will take them without permission; nor should the mother say she is going out and then come back to see what her child is doing. The child who is surrounded by rigid restrictions and rules is more apt to be disobedient than the child who is given a certain leeway and is controlled by a few reasonable rules which he can understand.

There are certain situations in which there must be immediate, implicit obedience. These are, for the most part, situations which concern the child's safety. The child should be made to understand what these situations are and why he should obey at once without question. He can soon learn that a certain tone of voice or a certain word from the parent as "Stop" or "Be quiet" must be obeyed. This can and should be made automatic.

In our complex society discipline must be used for instilling knowledge of the social amenities and for teaching respect for the property of others. There are many customs which we observe for no reason other than that it is usual to act in a certain way. There is little point in trying to explain by fabricating reasons. For example, the child soon learns that it is not because he will cut himself that he must not eat with his knife. It is much better to say that there are certain things which are not customarily done and therefore the child may not do them. There is no reason for this except that society, of which he is a part, does not approve. The similarity with certain tabus which children have among them-

selves may be pointed out. For example, children do not tattle on each other, they do not run to mother crying, etc.

A sense of humor and a sense of perspective developed in the child are invaluable. The child's life as a whole should be looked at and discipline should be such as to accomplish what one wishes in the long run. In this way nagging can be avoided and the whole plan of training made clearer to the child. Thus punishment for an unsocial act may be dispensed with if the child realizes his transgression and shows an understanding attitude toward what he has done and why it is being handled in a particular way by the parent.

During *the adolescent period* the parents should be especially careful not to magnify the importance of minor infractions of rules. The adolescent is apt to be critical, argumentative and unsure of himself and when disagreements arise he often blames both himself and his parents. Feelings of unworthiness are common at this age. The parent should commend good behavior and proper attitudes and should try to make clear the aims toward which he is striving.

Deprivation of privileges is the only punishment which has any value at this age and this should be used only occasionally and with care. The advantage to the child of being trusted and not watched by his parents should be stressed. He should understand that his parents wish to help him fit into society and are willing and anxious to advise him about behavior which will make this easier for him. Discussions about behavior in general, when there is no particular point in mind, will help the child to formulate his own ideas on the subject and will aid him in reacting suitably when such situations arise.

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CHAPTER XX

PARENTAL ATTITUDES

Affection. Overaffection. Overprotection. Overindulgence. Overanxiety. Underaffection, Indifference, Rejection, Antagonism, The Institutionalized Infant. Overauthority. Parental Identification. Perfectionism. Overresponsibility. Parental Incompatibility. Teasing.

The attitudes of the parents are of the utmost importance for the development of personality during early childhood. Their behavior toward the first child will be dependent on their innate equipments, on the way they were brought up, by what technics they were trained, whether or not their upbringings were emotionally satisfactory. Their attitudes will be further influenced by their experiences during adolescence and adulthood and by their adjustment to the marital situation; and their behavior toward subsequent children will be modified by their experiences with previous children. The parental demands for emotional satisfaction may be compatible with a proper development of the child's personality or it may more or less seriously interfere with his progress. In any consideration of the emotional development of the child, therefore, a survey of the parental personalities is of the first importance.

Parental attitudes are not necessarily fixed and changes take place frequently. When the parental attitudes are the by-products of their own distorted personalities changes are hardly to be expected. On the other hand, in a great many instances, attitudes result from external circumstances and are not, at first at any rate, deep-seated. Thus the hard-working father who rejects the child because he cries all night and keeps him awake, may change his attitude promptly when the crying ceases. A situation where reversal of attitude commonly takes place is with the child who has been the subject of overaffection and overprotection during the early years. Such children often behave so badly after the birth of a second child that they are actually rejected.

Reversals are not infrequently seen during the school years. When the child, who was looked upon as clever during the preschool years, fails to attain eminence in school-work, the parents, previously affectionate, may develop an antipathy toward him.

An important consideration is the age of the child at the time when the change in circumstances takes place. The parent who has rejected the child since birth because of the added financial burden of his support will not suddenly develop a liking for him if the family fortunes improve when he is 10 years old.

This chapter, by the authors, was first published under the title Psychologic Care of the Preschool Child, Part III, in the *Journal of Pediatrics*, Vol. 16, p. 357, March 1940, and is reproduced here in revised form by permission of the publishers.

By this time more reasons for rejecting him have probably accumulated, not the least of which are the undesirable personality traits which have been caused by the rejecting attitude. Furthermore, during later childhood, a change of parental attitude is apt to be looked upon with suspicion by the child.

AFFECTION

The normal attitude of the parent toward the child is one of affection, and it is reasonable to state that this is essential for the proper personality development of the child. A real sense of security develops only when the child feels that he is loved and understood. Under unusual circumstances, however, the normal parent-child relationships may be modified in the direction of excessive or deficient affection with more or less serious consequences to the child. The attitude of the parents may be influenced by their personalities and upbringing, by external conditions such as the economic situation, by prevailing views regarding the proper methods for rearing children and by the interparental relationships.

The patterns of mother-child relationship are frequently well established in infancy and are often dependent upon factors operating before the birth of the child. The effect on the child is usually not observed before the end of the first year and becomes more and more marked with the years.

OVERAFFECTION

Overaffection, an exaggeration of the normal affectionate attitude of the parent toward the child, is not infrequent and may be seen in any situation where the desire for a child is increased. It is often observed where there is an only child, particularly if the child has been born after the parents have been married for a long time or where there have been several miscarriages or death of a previous child. It is also likely to occur if the pregnancy or labor has been difficult or if the child has had a serious illness. Overaffection is sometimes seen in large families where the age interval between the last child and the previous children is great; and in this situation the youngest child may get excessive affection not only from the mother but from the siblings as well. Adopted children are frequently subjected to this attitude because they have been desired for a long time. Boys are more often affected than girls.

The emotional history of the mother plays an important part in the etiology of overaffection. The mother, coming from a home where there is too little affection and too great responsibility, often marries to free herself from her unhappy environment and consequently marriage is likely to be unsuccessful. Unsatisfactory sex life, parental incompatibility and lack of social interests intensify the mother-child relationship. The excessive affection is most often maternal but may be exhibited by the father or by both parents. It is usually permanent.

Overaffection is frequently accompanied by overanxiety and by overindulgent, overprotective and oversolicitous behavior, and the effect on the child is depend-

ent on the manner and the degree to which these are present. Children who are overindulged, overpraised and overpetted by the adults around them are poorly prepared to share their place in the household when a new sibling arrives or to mingle on equal terms with their peers in the playground and in the school room. Furthermore they often fail to utilize their developing potentialities, preferring to remain immature since those who have been responsible for their upbringing have not made the growing-up process attractive enough.

OVERPROTECTION

Overaffectionate parents usually show overprotective behavior toward their children although overprotection is sometimes seen where there is parental rejection. By prolonging infantile care through excessive control, the mother prevents the development of independent behavior. She spends most of her time with the child, not permitting him to play with other children, and she continues to feed and dress him long after he is ready to do these things for himself. This retardation, however, does not refer to the establishment of bladder and bowel control, which is ordinarily acquired at the usual time or even earlier. The behavior of the overprotecting parent toward the child is characterized by inconsistencies, the parent being overauthoritative about certain activities and overindulgent about others. The child is freely indulged as far as toys and play are concerned, but a firm stand is maintained where the child's personal safety or separation from the mother is involved.

In families where there is overprotection, the fathers appear to exert little control. They are likely to be submissive to their wives and are often indifferent to the situation. In rare instances there is overprotection of the child by the father. There may also be rivalry between mother and grandmother to protect and care for the child.

The outstanding effect of overprotection on the child is immature conduct which may manifest itself by aggression, submission, or, rarely, indifference. Aggressive behavior, which is most common, results from lack of maternal control and overindulgent overprotection. The child attempts to control every situation, refusing to yield to any authority and indulging in generally undisciplined behavior such as impudence, temper tantrums, bullying and cruelty to younger children. Irresponsible behavior and refusal to do one's share are prominent symptoms. Where the mother has a dominating personality, there is submissive and effeminate behavior, the child being irresponsible, dependent and immature. He is docile and runs to his mother for protection. He is likely to persist in infantile habits, insisting on being dressed, washed and fed. Eating difficulties are often present.

A common characteristic of overprotected children is their inability to make friends. The most frequent objection to playing with these children is either that they want to control and lead the games, or that they are afraid of rough sports and depend too much on the help of their mothers. In either case they refuse to play with other children on an equal basis. Often they become accustomed to adult society and do not know how to play with children. Difficulty

in making friends further reinforces the maternal overprotection by excluding the child from the companionship of children of his own age.

Prophylaxis.—The overprotective attitude can be modified, if not entirely prevented, if the physician is alert to those situations which give rise to overprotection. Thus, when a long-desired child is born under any of the circumstances previously enumerated, the parents should be warned concerning the ill effects of overprotection on the child before parental attitudes have become fixed. Similarly after a severe illness, opportunity should be taken to caution the parents about their behavior. Where the overprotective attitude is closely bound up with the personality of the mother, the situation is more difficult to handle, but even here much can be done by a clear explanation of the effect of her personality on the child. The mother should be urged to take part in activities outside the home. Specific directions should be given to aid the child in acquiring various technics of self-dependence, such as washing, dressing, feeding and taking responsibility for play away from home. At the same time the value of discipline in helping the child to fit into his group should be explained.

Treatment.—Before treatment of the overprotected child is undertaken it is essential that an accurate differentiation be made between the overprotection associated with overaffection and that seen with rejection. This is not always easy and it is often necessary to study the situation over a period of time.

In a young child the immature behavior resulting from overprotection may be treated with a fair degree of success. No approach will be effective without an explanation to the parents of the influence of their attitude on his personality. The child should be encouraged at first to do those things alone which he is able and willing to do. The pleasure which he experiences through achievement will often encourage him in further acts of self-dependence and will also demonstrate to the mother that he has potentialities of which she was not aware. The child should be gradually accustomed to playing with other children. A beginning should be made with one or two children and the group slowly enlarged as he makes adjustments. Where the overprotected child is receiving attention continually with no differentiation between good and bad behavior the mother should be instructed to distinguish between requests which are reasonable and those which are made solely to get attention. Approbation should be given for good behavior and care should be taken that the child is not rewarded in order to pacify him.

The mother should be encouraged in interests outside the home. This will serve to lessen the intensity of the bond between her and the child and at the same time compensate to some extent for those defects in her childhood and married life which have led to her overprotecting attitude. Discussion with other mothers about their problems, will often bring a better understanding of the influence of parent on child.

OVERINDULGENCE

Overaffectionate parents are frequently overindulging. The child receives everything he desires, so far as is financially possible, and is permitted to do

whatever he pleases. Grandparents are usually overindulging. The grandmother often feels that, inasmuch as she sees the child so seldom, she has a right to enjoy him as she wishes. Sometimes the child is bribed in this way to pay more attention to the grandmother than to the mother.

Parents who have had an unsatisfactory childhood, associated with financial worries or hardships, are frequently overindulgent. They find their children attractive and enjoy pleasing them. Fathers are more apt to be overindulgent than mothers, perhaps because they are not so acutely conscious of the unpleasant results of their behavior. Although overindulgence is most commonly associated with overaffection, it is found also where rejection is accompanied by a feeling of guilt. Here the parent indulges the child to ease his own conscience. With rejecting parents the indulgence is generally sporadic and alternates with periods of overauthority.

Overindulgence impedes the child's emotional development, keeping him in the infantile dependent state where a fit of crying or a temper tantrum is sufficient to summon the parent to satisfy all demands. The overindulged child is the demanding child. Accustomed to get what he asks for, he insists upon prompt response and resorts to tears and outbursts of anger if he does not obtain results quickly enough. His demands are often unreasonable since all reasonable requests have already been satisfied. He expects to be pampered and gets along poorly with other children who will not cater to him. He requires entertainment and is usually quite incapable of amusing himself. He is often bored, and the adults about him are kept busy devising diversions for him. His behavior cannot be relied upon when visiting, as he is uncooperative and demands attention continually. The parents accede to his requests at first, but as he grows older and more demanding they frequently become annoyed and irritated at his behavior. They are unable to cope with the situation which their attitude has created.

The parents should plan and carry through a consistent method of treatment. They should impress on the child the advantage of more reasonable behavior by consistently refusing to accede to infantile demands and by giving praise and satisfaction for more mature behavior. If the child is old enough, the parent should explain to him the reason for this change in attitude and should warn him that demanding behavior will no longer bring pleasant results but will, instead, be met with deprivations. At the same time the child should be assured that he is still loved and is really being benefited by this new method.

OVERANXIETY

Overanxiety, though more frequent in mothers, is not uncommon in fathers. It is often seen where there has been a serious illness or death among the children or other members of the family or among the children of friends. It is more often observed in families where there is an only child upon whom all the hopes and desires of the parents are concentrated than in large families. Where there is marital incompatibility, the maternal interest may be entirely centered on the child and this is intensified when the mother lacks interests outside the home. Overanxiety is usually associated with overaffection and overprotection, but it

may occur alone. There may also be overindulgence. It is seen at times in the rejecting parent.

Overanxiety manifests itself by oversolicitous behavior. The child's activities are limited because of the parental fear of disease and accident. He is not permitted to play freely with other children, and companionship is discouraged because of the possibility of contagious disease. He is not allowed to participate in sports, nor may he go about unaccompanied by an adult because of the danger from traffic, strange people, etc. Minor illnesses are exaggerated and the child is kept from school and in bed for an unnecessarily long time.

The child responds to parental overanxiety with timidity, fearfulness, shyness and cowardice. Since he has never been taught how to meet a situation alone, he becomes dependent upon his parent for direction. He is apt to become apprehensive and overanxious about his health.

Mild degrees of parental overanxiety are very frequent at the present time because of the prevalence of small families and of the hazards of life in large cities. Except where exaggerated, both children and parents make a good adjustment to this situation. A discussion with the parents of the undesirability of their attitude and its effect in limiting the child's developing self-dependence and initiative will materially assist in clarifying matters if the parents are ordinarily sensible.

UNDERAFFECTION

By parental underaffection or rejection is meant dislike of the child by the parent. The degree of dislike may vary from mild indifference to intense aversion. It may be present at the time of birth of the child or may develop later in childhood. Its appearance can often be predicted by the attitude of the parents during pregnancy. It is by no means uncommon. It usually becomes exaggerated during adolescence.

Parental indifference, or lack of parental interest in the child, results usually from the lack of close association between parent and child. The activities of the mother may be mainly outside the home for economic or social reasons, and she may have little time for the child and little interest in him. In a large family, or where the child is assigned to a nurse, the mother may not have the opportunity to become acquainted with her child. The father may make demands upon her, expecting her to do things for him or with him which keep her away from the home. It is not unusual for the father to lack association with the child since his main interests are usually away from home. The child may receive all material comforts but lack affection. Indifference is frequently encountered in families where there is a stepmother or stepfather, the true parent often being unwilling to spend much time with the child whom the stepparent may not accept. The effects of parental indifference are best seen in the child who is reared in an institution.

The child seems to accept the situation and conforms as is expected of him. He is, however, usually insecure and feels himself inferior either in not having the opportunity to be loved if he is an orphan, or in not being worthy of affection if he has parents. He may stop loving his parents and try to find a parent

substitute who will love him and whom he may love. As he grows older, he is unappreciative of his home and of what his parents have given him and is often openly resentful toward them.

The inadequacy of affection in orphan homes and the unfortunate effect upon the child have been recognized, and boarding homes and foster parents have been substituted in many instances. The parents in these homes usually desire the children and give them a certain amount of affection, attention and praise. In general the children improve under this treatment.

There is reason to believe that lack of adequate affection and mothering is especially harmful during infancy. Physicians have long been aware of this and have attributed the failure of infants to thrive in institutions to this factor. Parrot, the French clinician, who had a wide experience in foundling homes and in children's hospitals, came to the conclusion that the failure of children to survive in these institutions was due to lack of adequate stimulation. Brennemann, recognizing the effect of absence of mothering, had a rule in his hospital that every baby should be picked up, carried around, amused and "mothered" several times a day. Chapin, who was responsible for the boarding-out system for the care of neglected children in America, was keenly aware of the benefits of psychologic stimulation and he pointed out the need of babies for individual care and affection.

Recent observations tend to confirm the clinical impression that the personal interest of the mother is necessary for proper growth and development during infancy. Durfee and Wolf did developmental tests on 118 infants in 11 institutions in Vienna. They scored the institutions according to hygiene, social and mental care of the child and various other environmental factors. One of the factors considered was whether the mothers were allowed to take partial care of the children or whether only nurses took care of them. In 6 of the 11 institutions, mothers were allowed admission to the wards. They either helped with the nursing of the children or they came regularly to play with their children. In one home for illegitimate children, the mothers did all the work and ran the home.

The developmental quotients (D.Q.) were worked out according to the tests of Bühler. It was found that, except in one institution, the quotients of the children were all above 1.00 wherever the mother took partial or complete care of them, quite independent of the rest of the factors of the situation. The quotients of these children ranged between 1.06 and 1.16. The only place in which the mean quotient was below one, namely .91, was an institution in which foster mothers, not true mothers, attended to the children. In the 5 institutions in which nurses only took care of the babies, the quotients ranged between .91 and 1.02, and this in spite of the fact that some of these institutions were the best in regard to hygiene and modern equipment. Furthermore a separate study of each age group showed that the results were consistent for every month from 4 months upwards, indicating that the effect of the mother's care was manifest in the D.Q. from 4 months upwards. According to Bühler this study shows clearly the importance of the personal interest of the mother for the general development of the child during early life.

A recent report by Lowrey throws further light on the nature of the trauma which results from the prolonged residence in an institution. He studied a group of 28 children, ranging in age from 2 weeks to 11 months at the time of admission to an institution where they remained for 2 to 3 years. More than half had entered before they were 6 months old.

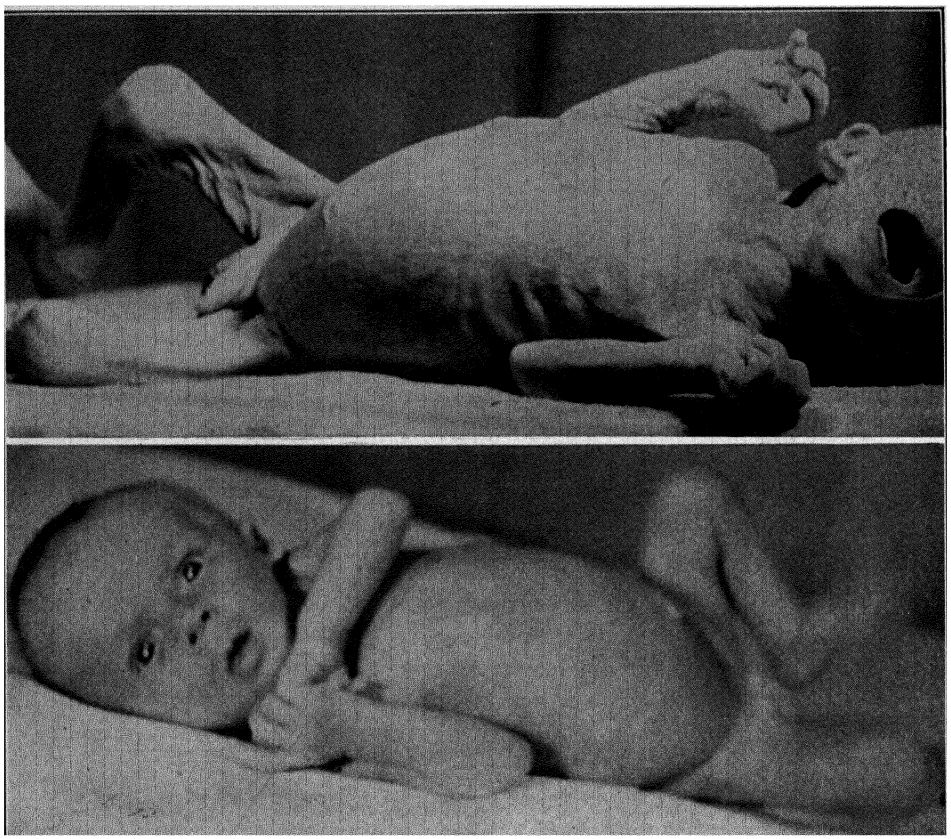

FIG. 24.—THE FAVORABLE EFFECT OF REMOVING AN INFANT FROM A HOSPITAL TO THE HOME.

A. S., at 16 weeks just before leaving the hospital; A. S., 5 weeks after leaving the hospital (From Bakwin, *H., Am. J. Dis. Child.*, 63, 1942).

The clinical picture presented by these young children was similar to that seen in the rejected child but the personality distortion was more marked. All the children showed symptoms of inadequate personality development, characterized chiefly by an inability to give or to receive affection and by marked insecurity. Certain behavior traits occurred frequently such as hostile aggressiveness, temper tantrums often of exceptional violence, enuresis, speech defects sometimes amounting to near mutism, attention-demanding behavior, shyness and sensitiveness, eating difficulties such as food refusal, fussiness, voracity, stubbornness and negativism, selfishness, finger-sucking, excessive crying. Lowrey believes that the low level of speech development was due to lack of social stimu-

lation and is important evidence of the "isolation" factor in the lives of these children.

Three children who were placed in the institution after 2 years of age did not show the personality and behavior changes which were observed in the younger group and Lowrey feels strongly that isolation during the early months of life is especially injurious.

The adverse influence on an infant of residence in a hospital is illustrated by the following case history:

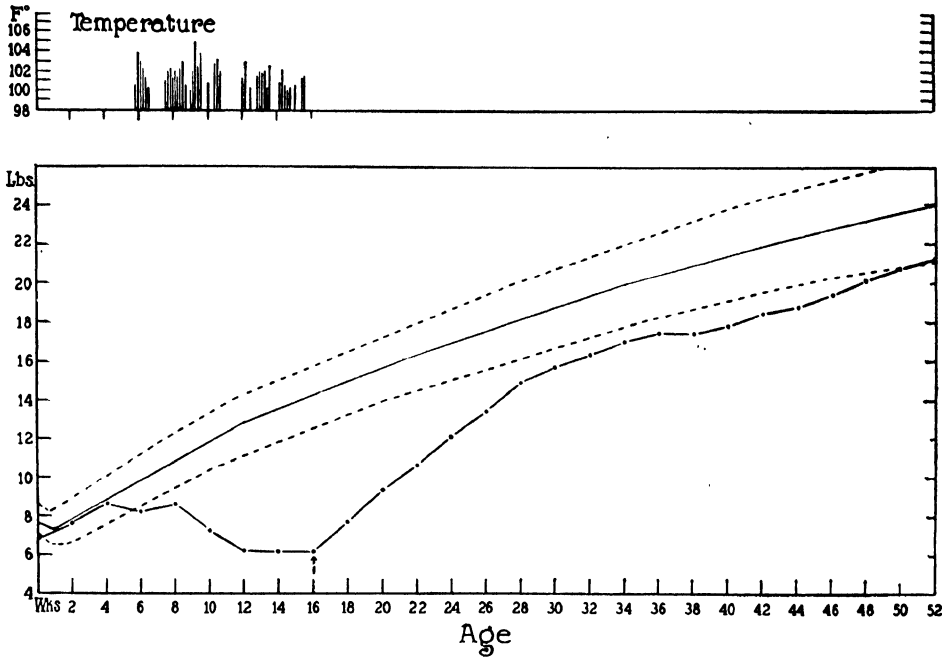

FIG. 25.—TEMPERATURE AND WEIGHT CURVE.

The temperature and weight curve of A. S., discharged from the hospital at 16 weeks, indicated by the arrow, was followed by a drop in temperature and a prompt and rapid weight gain (From Bakwin, H., *Am. J. Dis. Child.*, 63, 1942).

A. S., a boy, was the first-born child of healthy parents. Gestation and birth were normal and the birth weight was 6 pounds and 14 ounces (3.13 kg.). The child was breast fed for only 3 weeks and then, because of maternal illness, was removed from the breast and given artificial feeding.

He gained well at first and at 6 weeks weighed 8 pounds and 14 ounces (4.04 kg.). Shortly thereafter he developed a nasopharyngeal infection with diarrhea and vomiting and was admitted to the hospital at 8 weeks of age. The gastro-intestinal symptoms responded promptly to treatment but infections followed each other in rapid succession. In spite of fairly large amounts of food, supplemented with the accessory food substances and transfusions, the child went downhill rapidly. After 8 weeks in the hospital, when he was 16 weeks old, the infant weighed 6 pounds (2.73 kg.), almost a pound less than his birth weight.

He was very sick at this time, emaciated, wizened, pale and so weak that it seemed as though he might stop breathing at any moment. The mother who had been visiting him

several times a day seemed to be so deft with the baby that it was decided to let her take him home. In the hospital the child had been receiving a breast-milk feeding, about 65 calories per pound (143 calories per kilogram). The feeding was changed to an isocaloric mixture of evaporated milk and cane sugar.

The effect of the home environment was well-nigh miraculous. The child started to gain promptly and he continued to progress steadily. At the age of 2 years he was a normal, healthy, alert youngster, weighing 30 pounds (13.86 kg.).

A similar striking improvement in a child after discharge from an institution was reported by Chapin in 1908 and is illustrated in Figure 26.

A B

FIG. 26.—EXTREME ATROPHY BEFORE AND AFTER DISCHARGE FROM THE HOSPITAL.

A, condition May 18, 1905, before discharge; *B*, condition September 8, 1905, after discharge (From Chapin, H. D., *Arch. Pediat.*, 25:491, 1908).

Treatment.—Parents should be taught to feel responsible for the emotional as well as physical health of the child. Fathers should learn that providing an adequate income is not their only function. Paternal lack of interest sometimes results from the feeling of uselessness developed at the time of birth of the child. This can often be avoided if the father is made to feel that he is wanted and needed and can actually be helpful with the newborn infant. For the mother who has business and social interests which keep her away from home during the day a schedule can be arranged so that she may have time with her child when she is at home. This may mean a revision of her routine or of the child's, but it is usually possible. An interest in the child's activities will often pave the way for a better understanding between parent and child.

REJECTION

Rejection is likely to arise under any set of circumstances where the child is unwanted. It may have its origin in the personalities of the parents, in the inter-parental relationships, in parental jealousy of the child or in failure of a child to live up to parental expectations. It is often seen where marriage is precipitated by a premarital pregnancy. Rejection by a mother who has shown aversion toward the sex act or fear of pregnancy is occasionally observed. It may also occur where the birth of the child leads to economic difficulty. The second child in a family is sometimes rejected because the added financial burden which his advent imposes may deprive the first child of advantages which had been planned for him. Rejection may occur solely because the child is not of the desired sex. In such instances, the parents may give the child a name more usual for the other sex and may even encourage him in attributes common to the other sex. A child may be rejected because he is sickly, ugly or cries a great deal and keeps the parents awake at night. Some mothers reject a child because he interferes with work outside the home.

Of the parental personality patterns which lead to rejection one of the most common is parental immaturity, *i.e.*, the parent has not matured to the state where he is willing to make the sacrifices which parenthood necessarily implies. This self-centered attitude is fostered by an upbringing in which the individual has plenty of affection but little responsibility. It is often seen in young mothers, who were popular with men before marriage and who look upon the child as a symbol that they are growing old. It is much more common with first born than with later born children and is often not permanent. In exaggerated form this parental personality pattern is sometimes referred to as narcism by which is meant "fixation on oneself or gratification through the love of oneself."

Where there is parental incompatibility, the child is frequently rejected because he is considered an impediment to a possible separation of the parents. In addition he may remind one parent of the other. Where insanity, drunkenness or other undesirable tendencies exist in the family of one of the parents, the parents may feel it undesirable to have a child because of the possibility of transmitting these characteristics. In such instances the child is usually resented by the parent whose family is not so afflicted. There may also be a guilty feeling for marrying into such a family.

Rejection may occur where there is parent-child jealousy.

When a child is not able to accomplish what is expected of him at home or in school, he may misunderstand the parental disappointment and interpret it as dislike. Such a situation, if brought to the attention of the parent, may be readily corrected. Occasionally real rejection may develop out of the disappointment which the parent feels.

Among a considerable number of parents the normally affectionate attitude toward the child is tempered by a feeling that affection is undesirable, that it has a softening influence and that it is old-fashioned. This attitude is doubtless used by some parents to rationalize an emotional indifference, but it may represent a sincere attempt to give the child a proper upbringing. Where the mother

is employed away from home and so has little time to spend with the child, he may feel neglected and unwanted even though the parent is not really indifferent. A similar situation arises when the parents are undemonstrative and unable to express affection.

Rejection may be overt, that is obvious and recognized by the parent, or it may be obscured by conscious or subconscious efforts at concealment. Mothers who are effusive in their attentions to the child may actually be rejectors. Paternal rejection is usually overt. The overprotection not infrequently associated with rejection of the concealed type has its origin in a sense of duty or feeling of guilt.

The behavior of the rejecting parent toward the child is characterized by lack of appreciation amounting to continual criticism. The parent is unable to see the child's good points and minimizes his successes. On the other hand, undesirable traits are overemphasized and minor deviations in behavior magnified. The rejecting parent is impatient, overcorrective and often a rigid disciplinarian. The home atmosphere is one of nagging and discontent. When rejection is combined with a sense of duty, with or without a feeling of guilt, the child may be given everything possible in a material way in an attempt to compensate for the lack of affection. To ease his conscience the parent may go even further, making personal sacrifices for the child and overprotecting him. It is this type of behavior which sometimes makes the differential diagnosis between rejection and overaffection difficult.

The outstanding personality defect in the rejected child, whether the rejection is overt or concealed, is lack of a feeling of security, which requires an affectionate home atmosphere for its proper development. Behavior characteristic of the insecure child is evident in all rejected children.

When parental rejection is overt, there is usually aggressiveness and a desire for revenge, mixed with hypersensitiveness and unhappiness. The child is selfish, resentful, vengeful, disobedient and quarrelsome, often unpopular with other children, restless and hyperactive. Temper tantrums, lying, stealing and running away are not uncommon. The child is usually anxious for attention and will use the most annoying means of getting it. The aggressive behavior is most striking when the rejecting parent is the father.

Where the rejection is concealed and associated with overprotection so that the child is not fully aware of his rejection, behavior is more apt to be submissive. The child is shy, secretive and fearful. He cries easily, is unable to concentrate and often shows poor achievement at school, irrespective of his intelligence. He is apt to be unpopular with his playmates.

In all types of rejection the need for affection leads to excessive demands for attention and applause. Lack of affection during the early years, termed primary affect hunger by Levy, may result in personality changes which are irreversible. The outstanding trait of children who are permanently damaged in this way is a lack of emotional response. They may behave normally and seem quite happy yet emotional contact with them is impossible.

Prophylaxis.—The most important factor in preventing parental rejection is an early appreciation by the physician of the circumstances under which it may

arise. It is only by early recognition of the rejecting attitude, before parent-child relationships become firmly established, that the best results can be obtained.

The rejecting attitude of the parent may be suspected during pregnancy. A common sense discussion at this time of the circumstances which seem to be resented by the parent may assist materially in clarifying a situation potentially harmful to the child. A fixation on the sex of the child should be discouraged. When parents feel that the birth of a second child will deprive the first child of material benefits which they have planned for him, the advantages of companionship of the two children should be emphasized. If the advent of the child is thought of as an impediment to a career outside the home, a more thorough understanding by the mother of her relation to society may show her that ultimately the career of woman is that of a mother and that her activities outside the home are probably temporary.

During pregnancy the mother should be instructed in her attitude toward her husband so that he will not feel useless, neglected and resentful toward the birth of the child. Special efforts should be made to induce the potentially rejecting mother to nurse her child, as the likelihood of rejection in a nursing mother is considerably less than in the case of an artificially fed infant.

Treatment.—With intelligent parents an explanation of their rejecting attitude, which is frequently unconscious, may help greatly, particularly if given early in the child's life before attitudes have become fixed.

Before attempting treatment an estimate of the mechanism leading to rejection in the particular case is essential, and the situation should be discussed with the parents accordingly. If parents can be made to realize that they are demanding more of the child at home and at school than he is capable of giving and that the child is not responsible for his inadequacies, a difficult situation can often be resolved. Furthermore, release from the tension due to parental criticism will often effect an improvement in the child's achievement.

When the mother uses the infant as a means of getting attention and sympathy from the father, this should be discouraged.

Although it may be difficult for the parents to give affection to the child, they should be urged to encourage him by applauding his successes and minimizing his failures. Invidious comparisons with siblings, nagging and overcritical attitudes should be avoided.

Parent-Child Antagonism.—An extreme form of rejection is observed in the condition often referred to as parent-child antagonism. Parental antagonism is usually directed toward a child of the same sex as the parent and most often by the father toward the son. The usual basis for this feeling is parental jealousy of the child. The father may consciously or subconsciously resent the normal attachment of the mother for the child and the time and care which she devotes to him. The son, sensing the paternal antipathy, avoids the father and clings to the mother, thereby sharpening the antagonism. Some fathers are actually cruel and continually exaggerate minor transgressions of the child in order to justify their own feeling of hostility. The child, in turn, continues his transgressions in order to annoy the antagonistic parent and in this way delinquent conduct may arise.

The father may not be aware of his hostility and may even actively resent any suggestion that this is his attitude. He may insist on a standard of performance which the child is unable to achieve and then use the child's failure as proof of the validity of his own attitude.

Some fathers see their sons as competitors or rivals and treat them with great hostility and cruelty. This has been interpreted as a carry-over of the sibling rivalry of the father's youth. A child may be blamed for maternal illness associated with his birth or for any later maternal illness, or for premature aging of the mother. He develops a sense of guilt, often accepting the blame placed upon him, and becomes fearful, uncertain and convinced of his own worthlessness. These children are most unhappy and, as a group, comprise many of the runaways and truants.

A few children who are unhappy at home because of the hostile atmosphere do unusually well at school and are well liked by their school friends and teachers. They seem to thrive in the friendlier environment at school and greatly desire to succeed where a fair chance is given.

OVERAUTHORITY

There are parents who are unable to accept the child as he is but require that he act in accordance with their ideas. They expend great energy and exert excessive authority to train him. Some parents, with a strong feeling of inferiority, may feel thwarted if the child fails to respond in the desired way, and they therefore assume a domineering attitude in order to appease their offended sensibilities. In some instances there is a sincere belief that this is the best way to prepare the child for the future. The overauthoritative parent is usually unduly critical and nagging and may be actually rejecting.

The characteristic response of the young child to overauthority is submission accompanied by resentment and evasion. Fearful of openly refusing to follow commands, the child resorts to dawdling about eating, dressing, washing, etc., and is often characterized as a slow child. He rarely disobeys directly but seeks methods of evasion, such, for example, as concealing food which he was commanded to eat, or saying that he has not eaten *a* candy when he has eaten *two*. The child obeys the letter of the command but not the intent. This dawdling, evasive behavior is very characteristic, and, when encountered, should lead the physician to suspect an overauthoritative parent.

Many parents fail to appreciate that they are too domineering or that they are trying to force the child into preconceived patterns of behavior. They do not realize that their insistence on strict compliance leads to evasive behavior which may be a forerunner of deception and which in itself is much more serious than nonconformity.

In dealing with the overauthoritative parent, emphasis should be placed upon the importance for the child of developing his own potentialities. The parent should be urged to try to see the child's point of view and to manage situations with kindness and understanding rather than in accordance with an inflexible idea of what the child ought to be.

Parents should understand that the right kind of authority does not oppress; instead it gives the child a feeling of security and confidence because it bounds for him the limits of his independence. It helps the child to adjust to the group and at the same time prevents the group from tyrannizing over him. This balance aids the child in the development of self-dependence and in social understanding. Authority is harmful when it limits the child's freedom unduly and prevents him from achieving natural outlets for his developing desires and skills.

PARENTAL IDENTIFICATION

Parental identification refers to the attitude of the parent who relives his life in the child and who wishes for the child those things which he has wanted and not obtained. These may be specific desires for education, financial security, travel; or more vague and perhaps more compelling desires for affection, independence, or success.

The mother with this attitude is apt to demand excessive affection from the child to make up for early deprivation. She may impose her interest in sports, music, or social prestige on the child. Where there is paternal identification, the father is usually eager to compensate for his own lack of education or business opportunity.

In most instances the child is very much wanted and is considered well-nigh perfect during infancy. As he grows older and fails to show interest or to succeed in the fields where his parents expect his success, disappointment results. Even the small child may sense the parental disapproval and hence may become quiet, shy, retiring and insecure. He cries easily and often will not attempt the simplest tasks because of his fear of failure, thereby leading the parents to believe that his inadequate behavior is due to obstinacy.

Parents with this attitude are sincerely anxious to help the child and can usually be made to understand that his desires and interests may run counter to theirs, thereby causing his failure. When they grasp the situation they will usually help him to follow his own desires. As soon as parental pressure is relaxed and the child finds sympathy and understanding, he will begin to develop into a much more satisfactory individual.

PERFECTIONISM

Some parents are unduly ambitious for their children and make demands on them which are beyond their capacity. Anything less than perfect behavior is unacceptable, and little credit is given for achievement unless it is fully successful. Much time is spent in extracurricular instruction as the parent expects success not only in the usual daily routine but in music, dancing, sports and elocution. Sometimes the parent demands perfection to bolster his own ego and to compensate for a feeling of inferiority. Other parents may feel that the child's success in life is dependent on a good foundation and falsely believe that they are giving him this opportunity for success. The heavy schedule which is imposed on the child is fatiguing and as a result he is likely to be overanxious, unstable and

hyperactive. He sleeps badly, has poor appetite and indulges in nail-biting, picking at clothes and generally restless behavior.

Children cannot thrive under completely routinized living conditions. Free hours, free play and free direction of energies are essential. Encouragement and deserved praise yield much better results than excessive direction and criticism.

OVERRESPONSIBILITY

There are parents who expect their children to accept more responsibility than they are psychologically ready for. The technical ability to perform a task does not necessarily imply that the child is ready to take the responsibility for doing this by himself. A sense of responsibility involves the ability to put aside all distractions and temptations and to realize the advantage of satisfactory accomplishment. On the whole parents tend to demand too much responsibility when children are small and too little when they are older.

Responsibility for punctuality should not be expected of a child until he is 7 or 8 years old. Neatness and cleanliness, especially in a boy, develop only as he nears adolescence. A small child cannot be expected to have an understanding of honor or to remember admonitions over a long period. Instead he should be safeguarded against temptations in proportion to his ability to withstand them. An older child may learn to forego pleasures for something more important in the future or for parental approval or personal satisfaction, but this should not be expected of a younger child.

Overresponsibility is frequently associated with overauthority, the parent demanding success from the child in acts for which he is assumed to be responsible. It is also seen where there is parental rejection, but conscientious, affectionate parents who have erroneous notions about child rearing may also behave in this manner.

When the child is given greater responsibility than he is ready for, he may appear more mature than usual for his age, seeming quiet, serious and industrious. Actually there is often a reversion to infantile behavior with bed-wetting, restless sleep and childish play. Sometimes the child refuses to accept the responsibility and pretends he is unable to perform even simple tasks, thus evidencing his immature reaction.

Although the child should be helped in the growing-up process there should be no attempt to hurry him. Training in various skills and responsibilities must wait until the child is developmentally ready to profit by such training. Only by allowing him to assume control at the proper time can he develop to the fullest extent.

PARENTAL INCOMPATIBILITY

The effect of parental incompatibility on the personality development of the child depends on the child's awareness of the situation which, in turn, will be dependent on the child's age, mental alertness, the parental efforts at concealment and the personalities of the parents.

Most young children look upon their parents as well-nigh perfect. The bickerings and recriminations to which the child of incompatible parents is exposed shake his convictions and confuse him. He is torn between parental loyalties, siding first with one parent, then with the other. He is ashamed and tries to conceal the situation from his friends. One parent may make a confidant of the child, currying favor with him and implanting antagonism toward the other parent. Sometimes he is used by one parent to spite the other and he may be encouraged in conduct of which the other parent disapproves. Again he may become the sole outlet for the maternal affection and thus maternal overaffection, overanxiety and overprotection may further influence personality development.

Incompatible parents are often inconsistent in their attitudes toward the upbringing of the child. They fail to consult together, and therefore their attitudes toward privileges and prohibitions are frequently conflicting. Parental incompatibility is likely to occur where there are personality defects in one or both parents and therefore in analyzing the effect on the child the parents must be considered individually as well as together.

Parental incompatibility leads to a feeling of insecurity. The child needs to feel that he belongs to both parents. If one parent is pitted against the other or if both use the child as an instrument for hurting one another, his security is threatened. He also suffers conflicts of loyalty, mixtures of love, hatred and hostility. He may turn completely to one parent and rebuff the other, or may try to be loyal to both. He is apt to doubt his own worthiness when his parents appear unworthy to him and this further increases his feeling of insecurity. Often he regresses to infantile acts such as bed-wetting, thumb-sucking, whining, fearfulness. A sense of guilt may be combined with uncertainty and embarrassment, the child feeling that he is in some way responsible for the difficulties between his parents since many of the quarrels which take place in his presence concern him. Recollection of previous affection between the parents while he was small may lead him to feel that his growing-up is a reason for the friction. The preschool child will only sense this and will probably not feel the responsibility for trying to adjust matters between the parents which older children experience.

Important also is the child's awareness that he differs from his group. During the school years and sometimes earlier it is important in the child's mind that he conform and so be accepted by his friends. Being different embarrasses him and he responds with feelings of shame or fear and an unwillingness to produce his parents, a situation which the group quickly senses.

It is not unusual for the child of incompatible parents to be rejected. His presence during their quarrels may cause them to feel guilty and so they resent him. Also he may interfere with their possible separation and so be undesirable. Some parents feel that the child is actually responsible for the situation as many of their disagreements concern him. Occasionally the affection between mother and child causes the father to feel jealousy or resentment not only toward his wife but also toward the child.

Some children seek an escape from disappointing parents by developing a hardness and self-sufficiency. Others, more fortunate, find substitutes for their

parents among teachers or older children, while a few try to escape into a dream world which excludes the distressing realities.

Separation or divorce of the incompatible parents eliminates friction in the home but often makes the situation more difficult for the child since the parental incompatibility, which he has more or less successfully concealed from his friends, becomes an established fact which he must now accept and explain.

Management.—There should be no quarreling in the presence of the child. The parents should be urged to be consistent in their treatment of him. It is unfair either to confide in him or to play him off against the other parent. Furthermore, if the parents must separate, the child should be warned ahead of time and helped to understand such a step. He should be shown that disgrace does not necessarily accompany this act. His parents should be represented to him as worthy and respectable individuals, the victims of circumstances rather than the result of mismanagement.

Occasionally a child may wrongly interpret the attitude of one parent toward the other and may believe that friction is present when instead there is a real understanding. In such instances the parents' attitude toward the child and the reason for his misunderstanding the situation must be gone into and corrected.

In most instances, the child's attitude toward the home situation may be modified by careful guidance. He should be assured that he is in no way responsible for the unhappy situation.

TEASING

Teasing is an unfair method of controlling the child. It often results from a feeling of inferiority on the part of the person who teases and gives him a vicarious sense of power and superiority. The oldest child is frequently teased by his parents and he in turn teases the younger children. This is permitted by the parents since it is hard for them to object to conduct patterned after their own behavior and also because it is thought to show a sense of humor and to teach the child through being teased to be able "to take it." Boys tease more often than girls.

Teasing is destructive to the happiness of the child. He is placed in an impossible situation, helpless and blocked. Anger or tears usually result in scolding from the parent and more teasing. Teasing does not harden the child nor develop a sense of humor in him. As the child grows older he may develop an intense dislike for the person from whom he has had to endure teasing. He feels that an unfair advantage has been taken of his youth and helplessness and he fears to trust where he has often been fooled.

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CHAPTER XXI

THE SIBLINGS

Ordinal Position, The Only Child, The First-Born Child, The Youngest Child, The Middle Children., Sibling Rivalry. Multiple Births. The Adopted Child.

ORDINAL POSITION

Position in the family is not responsible for a particular type of behavior or personality pattern although the parents become more experienced and more confident as the number of children increases.)

The Only Child.—By and large, only children grow into well-adjusted adults. They look back at their childhood as having been pleasant and most of them do not feel that they suffered during childhood from the absence of siblings.

The personality of the only child is influenced, to a considerable extent, by the circumstances which led the parents to limit the family to a single child. In a number of instances, the parents are middle-aged at the time of the child's birth and the mother feels that she is too old to bear more children. The parents may also believe that they are too old to see their children through to the period when they will be self-supporting. Such parents are apt to be overaffectionate, overanxious, overprotecting and overindulging and the child will react to these attitudes like other children under similar circumstances. When the sole sibling of a child has died, overanxiety is liable to be the outstanding defect in the parental attitude. In many instances, parents think that they cannot afford to bring up more than one child in the way they wish. Such parents are frequently perfectionists and try to fit the child into a preconceived mold. Where parents refuse to have a second child because they feel that the world outlook is so dark, the single child will be correspondingly influenced by their gloomy attitude. The only child may be the result of an incompatible marriage and in such instances he may suffer from the effects of a broken home. Not uncommon reasons for limitation of the family to one child are illness of the mother, repeated miscarriage and sterility. Single children, under these circumstances, are generally less traumatized than others.

In general the only child receives too much attention from his elders. This often expresses itself in overpraise and overindulgence and the child may be spoiled and self-opinionated. If the parents are overanxious and overprotecting, the child is apt to be timid, apprehensive, fearful and retiring. Less commonly there is an intense desire for perfection and the child has too many lessons, too much routine and too little freedom.

The only child, deprived of the companionship of his peers, finds himself constantly in the presence of adults with whom he is unable to compete. He is apt,

therefore, to choose infantile modes of behavior to attract attention. Only children are often unpopular because they are unaccustomed to compete with children of their own age and so try to dominate every situation. The desire for companionship often results in the invention of an imaginary playmate.

A considerable number of geniuses and superior children are only children. When the parents are unusually solicitous onset of speech is apt to be delayed. It is not necessary for the child to talk as his wishes are granted before he asks. After speech has been acquired the only child is apt to increase his vocabulary rapidly and to use many grown-up phrases because of his association with adults.

First-born children are brought to the physician or guidance clinic more frequently than others. This is dependent mainly on the inexperience of the parents and their tendency to be overanxious and hence overprotecting. The parents are generally young and recently married and many are not completely reconciled to the change of status implied by parenthood. This may give rise to a certain amount of resentment toward the child. First-born sons are usually the favorites of their mothers. Father-son jealousy is more common when the son is first-born than when the son is a later-born child.

Where the first-born is an only child for several years he may suffer from lack of companionship and competition in the home. In such instances difficulties may arise when a second child is born. Rivalry toward siblings is more marked in first-born children because they have had the undivided affection of the parents.

No significant differences have been found in the mean I.Q. of first and later born children. Terman found that almost three-fifths of gifted children were first-born which would suggest that families of high mental status limit the size of family.

The youngest child is apt to be overindulged and babied especially if there is an interval of some years between him and the previous child. He is often spoiled by older siblings as well as by the parents.

Middle Children.—Contrary to the prevalent idea behavior problems are often seen in middle children. Feeding difficulties are infrequent. In larger families the children often express a need for the individual attention of their parents. They are not content to receive equal affection. They want to be treated as individuals and have the opportunity to be alone with their parents. This is best accomplished by the parent and child sharing in some pleasure in which they are both interested such as walking, reading or music.

This individual attention is especially important as the child approaches adolescence. At this age he is eager to discuss his opinions and ideas and it is especially valuable for him to be able to do this with an understanding and respected parent.

SIBLING RIVALRY

Sibling rivalry or jealousy of the child for a brother or sister is very common. It is more frequent in first-born than in subsequent children since the first child necessarily lives through a period during which he has no opportunity to learn to share the parental affection and attention with a sibling. Though sibling rivalry does occur even in large families it is less common than in two- or three-

child families because the children in large families soon learn to comprehend the division of affection which arises with the advent of each new child. Furthermore there is less likelihood of exclusive maternal devotion to any given child and more possibility of compensatory friendship between the children and of sympathy and solidarity among the older children.

Sibling rivalry is apt to be most intense when the older child is between 18 months and 3 years at the time of birth of the younger child, since at this period the child has already become aware of the parental affection but does not feel well enough established in the esteem of the parents to be willing to share with a sibling. Furthermore the child is still to a large extent emotionally dependent on the parents. Jealousy is less keen in brother-sister combinations than when the children are of the same sex since there is less apt to be a clash of interests. It is more common in girls than in boys.

The intensity of the rivalry feeling is, in general, proportional to the dependence of the child on the mother and hence is apt to be particularly well-marked in the overprotected child. It is also observed where there is parental rejection and in such instances it represents another outlet for the child's general emotional discomfort.

The response of the jealous older child is most frequently hostility toward the newcomer combined with a desire to relive the pleasures and advantages of infancy. Hostile behavior toward the younger child may be overt, manifesting itself by cruelty and an attempt to get rid of the baby; or it may be concealed and displayed in a more subtle manner by persistent demands for attention when the parent is occupied with the baby. Negativism is the characteristic most often found in jealous children. This may be a result of the antagonism or it may be merely an accompanying condition as both rivalry and negativism are most common between 2 and 5 years of age. At times an attitude of tenderness and protection is mixed with hostility and the older child may assume a possessive role toward the infant. Infantile responses in the jealous child appear as wetting, soiling, insistence on being fed, held, rocked to sleep, etc.

Hostility is intensified by parental preferences for one or the other child and by parental comparisons. Favoritism of a nurse for the younger child frequently intensifies sibling rivalry and this is particularly apt to occur when the nurse is employed after the birth of the second child. Nurses are trained in the care of infants and have little if any instruction in the handling of older children. They tend to focus their attention on the baby where their success can be measured by the weighing-scale and look upon the older child as a secondary responsibility.

Sibling rivalry is less apt to take place after the age of 6 probably because the older child has a better understanding of his relation to his sibling and because the home situation is less important as his interests and experiences broaden. It is possible that jealousy persists but is concealed because the child realizes that it is undesirable and disadvantageous.

Prophylaxis.—Since sibling rivalry is more likely to occur in overprotected and in rejected children an attempt should be made to encourage the child's self-dependence and at the same time make him feel secure in the affection of his parents. Before the arrival of another infant the child should be shown the privi-

leges and advantages of being grown up. He should be taught to feed and dress himself as far as possible and, if he is to be moved out of the parents' room, the transfer should be made several months before the new infant is expected. If the child is old enough he may be told that a new baby is coming and that it will be his brother or sister. The helplessness of the infant may be emphasized and contrasted with his own self-dependence. If the mother goes to a maternity hospital the child may resent her departure and blame the infant. This should be dealt with in a commonsense way before the mother-child separation takes place.

When properly handled, sibling rivalry in young children ordinarily diminishes in intensity. It may and often does, however, persist and may color the intrafamilial relationships permanently.

Treatment.—Parents must accept the child's spontaneous response of hate, resentment and jealousy toward a new sibling as a natural result of the situation which confronts him. The child should be reassured of parental affection and he should receive attention and privileges on a more mature level. The parents should see that he has affection and attention sufficient to make him feel secure in his new position and they should avoid bestowing too much attention on the new infant in the older child's presence. Too frequently friends and relatives, in their eagerness to see the baby, unintentionally ignore the older child thereby hurting his feelings.

If the child is unusually jealous the mother should avoid nursing or giving other care to the infant in his presence since the most frequent stimulus to hostile feelings in the older child is the sight of the baby being fondled by the mother. The mother must be careful, however, not to let him feel that he is being excluded. The father should assume a more important part in his life. In this way the child will receive additional affection and attention of a more mature type which will help to establish him in his new position of older brother or sister.

Where a nurse is employed the parents should choose someone who is interested and experienced in the care of older children and they should make sure that she understands that the older child is her responsibility as much as the younger. It is unwise for the mother to care for the infant and turn the older child over to the nurse entirely since this naturally increases the rivalry feeling.

In rare instances, where the jealousy is intense, it may be necessary to separate the children to avoid bodily harm to the infant.

MULTIPLE BIRTHS

In the United States twin births occur once in 88 times; that is, one delivery out of every 88 is a twin birth. Triplets occur once in 9,042 and quadruplets once in 551,266 births. It is estimated that quintuplets occur once in 54,000,000 births or about once a generation (33 years) in the United States. Four sets have been born during the past century and a half. If these figures are examined one will see that, if the frequency of twins is 1 in 88 deliveries, that of triplets is approximately one in 88^2, of quadruplets one in 88^3 and of quintuplets one in 88^4. This is known as Hellin's Law. According to this law, if the frequency of twins is represented by P, the frequency of triplets will be P^2, of quadruplets P^3, etc.

Predictions accordingly to this law have been remarkably accurate in all the series studied. Twin births are more frequent among negroes than whites (once in every 70 births).

Twins are of two kinds, one-egg and two-egg. One-egg twins are sometimes referred to as identical, duplicate, monochorionic, uniovular or monozygotic twins. The terms identical and duplicate are inaccurate since twins are never identical or duplicates. The term monochorionic, which refers to the fact that only one chorionic membrane is present, is also inaccurate since one-egg twins may be dichorionic. Synonyms used for two-egg twins are ordinary, fraternal, dichorionic, binovular and dizygotic. The term fraternal means merely that the twins are related as brothers or sisters. The term dichorionic is not helpful since, as just stated, some one-egg twins may be dichorionic. Furthermore with two-egg twins the two membranes may be so closely fused that only careful histologic examination will reveal the fact that two are present. Newman recommends the use of the designations one-egg and two-egg twins (or their Latin and Greek equivalents, uniovular, monozygotic, binovular, dizygotic) as the simplest and most accurate terms.

Two-egg twinning is probably hereditary whereas one-egg twinning occurs as sporadic variants in all races. In the United States about 25 per cent of twins are one-egg. Corresponding to the birth of more males in the general population, boy-boy twin births exceed girl-girl twin births slightly. There are a few more opposite-sexed pairs than same-sexed pairs.

Differentiation between two-egg and one-egg twins is not easy during infancy but at school-age there is ordinarily no difficulty. Boy-girl pairs can at once be put aside as two-egg twins, leaving only the same sexed pairs for classification. In about 90 per cent of cases a diagnosis of one-egg or two-egg twinship can be readily made on the basis of striking similarity or obvious dissimilarity.

For the small group in which the question of diagnosis arises a number of criteria are available. In one-egg twins the skin color and texture, eye color, color pattern of the iris and ear shape must be closely similar. There must be no marked differences in eyelashes, eyebrows, lips, shape and arrangement of teeth. Dental irregularities are the same or mirror images of each other. The hands, fingers and finger-nails must be the same in shape and size. The finger prints are, for practical purposes, identical; indeed they are more nearly alike than the finger prints from the two hands of the same individual. Differences between one-egg twins in head-shape are frequent, especially during early life, and may lead to a false diagnosis of two-egg twins. Changes in head-shape may be due to prenatal factors, rickets, trauma. These differences usually disappear or become less striking as the children grow older.

One-egg twins belong to the same blood group and have the same capacity to produce either the M or the N antigen. In the large majority of instances the electrocardiograms are practically identical. One-egg twins continue to be surprisingly alike even though they have not seen each other for many years or even did not know of each other's existence. In Newman's study of identical twins reared apart, he included several sets of twins who were brought together because some acquaintance noticed the marked resemblance and called it to the

attention of one of the twins. In one-egg twins there is a slight but hardly significant tendency for older pairs to be less alike than younger ones in mental and educational tests. This would seem to indicate that environment plays some slight part in making twins dissimilar.

Gesell, Newman and other observers have found the intelligence quotients and also the psychographs in identical twins to be of great similarity. Some studies show the mean I.Q.'s to be somewhat lower than in singletons from the same environment and with equal opportunities.

Twins are considerably retarded in language development. The mean vocabulary of 158 words obtained by Day for 5-year-old twins was equalled by singletons at 30 to 36 months. The explanation may be either that there is less need for speech and questions because of the satisfactory companionship with an individual of the same age or that the presence of an individual of the same age detracts from the necessity or desirability of learning from other more intelligent individuals. As with singletons, girl twins are more advanced in language development than boys. Gesell found the vocabularies of twin pairs made up of almost identical words.

Left-handedness is more frequent among twins than in the general population. About 15 per cent of one-egg twins are left-handed in comparison with approximately 6 per cent in singletons. The incidence in two-egg twins is about 8 per cent. In about 4 per cent of one-egg twins both are sinistrals, whereas this is true of only 0.4 per cent of the two-egg twins. Sometimes uniovular twins appear to be mirror images of each other, having opposite handedness, reversed hair whorl and similar thumb prints on opposite hands.

The handwriting of one-egg twins is no more alike in general style and appearance than the writing of two-egg twins but in quality and speed on special tests one-egg twins are more similar. Results on mechanical ability tests show that uniovular twins resemble one another much more closely than do binovular pairs.

Twins are usually born somewhat prematurely and the birth weights are often below 5 pounds (2.24 kg.). The infant death rate is fairly high, but after the first year the survival expectancy does not differ materially from that of other children. The growth rate during the first year is generally below average but during later life is quite normal.

There are no characteristic emotional or motility patterns in twins. Sibling jealousy is unusual.

THE ADOPTED CHILD

Except in rare instances, parents adopt a child because they greatly desire one. Their dominant attitude is one of overaffection, combined with the associated attitudes overprotection, overindulgence, oversolicitude and overanxiety. In addition there may be fear lest the child will evidence undesirable hereditary traits. Particularly common is the fear, when the true parents were unmarried, that the child will lack sex control. There is no basis for this fear. The child of an illegitimate union is as susceptible to training as are other children. Many parents

of adopted children feel inadequate and worry about their ability to give the child a proper training.

If the child is 3 years or older at the time of adoption difficulties may arise as a result of the change of domicile. This is true even though the child comes from an inferior environment to a superior home since young children resent changes in their usual routines. Often they are unaccustomed to the attentions of affectionate parents and hence do not know how to respond. If the child has been adopted from his own home there may be resentment at being taken from his family or a feeling of shame that his parents would give him up. The effect of the previous environment on the child may persist for years and the adoptive parents must realize that this possibility exists if they adopt a child beyond the infant stage.

Certain emotional and training disturbances are common in children who have been adopted after spending several years in an institution. Among these may be enuresis, speech defects such as delayed and indistinct speech, temper tantrums and evidence of insecurity.

Management.—Every effort should be made to reassure adoptive parents and to allay overanxiety. Since they are likely to be overaffectionate and overprotecting they should be warned repeatedly about the effects of these attitudes on the child.

When the child is over 2 years at the time of adoption he should not be expected to evidence affection nor should he need to submit to demonstrations of love until he has become accustomed to his new environment and feels secure in it.

The adopted child should be told of his status at an early age. He should know that he was deliberately chosen, that his present home is permanent and that he is very much wanted. When he is old enough he should be told something about his true parents. They should be presented in the most favorable light possible, as the victims of accident or misfortune so that no blame may be attached to them. When nothing is known about the parents the child may gain assurance by receiving information about his nationality and the stock from which he has sprung.

It is not advisable to have the adoptive parents meet the true parents unless the child is adopted from a friend or relative. The child should not be told the name of his true parents nor their whereabouts. It is best for him to understand that they are dead.

There is a tendency among adoptive parents to excuse the child's misbehavior on the basis of the early trauma to which, presumably, he has been subjected. Reasonable allowance may be made during the first few months of adoption, but thereafter the child should be expected to conform to training procedures like other children.

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CHAPTER XXII

THE SCHOOL

The Nursery School, Advantages, Disadvantages. The Grade School, Difficulties on Entering, Reasons for School Retardation, Special Classes. The High School, Functions, Types of Courses, Coeducation versus Segregation, Reasons for Failure. Truancy.

THE NURSERY SCHOOL

The aims of the nursery school are to help the young child to adjust to other children, to allow him free emotional development, to aid him in learning new technics and to assist him to think through for himself the problems which are presented. By means of play situations provided in the school, children of 3 to 5 years acquire self-reliance and socialization with great facility.

Advantages.—The nursery school is useful where the mother is employed away from home and hence is unable to supervise her children's care during the day. The staff is specially trained and is superior to housemaids and to the majority of nurses who care for children. The daily sessions are ordinarily short and leave ample time for the development of normal parent-child relationships. The school can only supplement home care and should not be expected to replace it.

The nursery school offers the child the opportunity to be with children of his own age and it is therefore particularly valuable for the only child or for the child without siblings near his age. It can also supply more and better play equipment than the home. A large choice of outdoor apparatus is desirable as it encourages exercise and the development of large muscle activity. Smaller muscle activity is developed through the use of hammer and nails, paints and clay. A sense of accomplishment, so hard to establish in the small child, is readily developed in this way and along with it a sense of beauty of form, color and rhythm. Nursery school provides rich opportunities for the use of language which is developing with great rapidity at this age.

Supervision and guidance are important in the constructive use of play materials and for this purpose the specially trained teachers are particularly helpful. Free play is desirable where possible but often guidance and suggestion are necessary where the children play in groups.

The overprotected child benefits through added responsibilities, through contacts with children outside the home and by being a member of a group. It is not unusual to find that the child who is unhappy or misunderstood at home develops rapidly at the nursery school. Many children establish routine habits with greater ease when learned in the presence of other children. This is particularly true of

eating, resting and of putting away toys. Unselfishness and cooperation become a part of the daily routine.

Disadvantages.—The frequency of infections wherever children congregate in groups is a drawback. Furthermore some children, unaccustomed to a group, are overstimulated at school. There is a great deal of running about and shouting at many nursery schools and too little rest. Even a half day session may be too long for some children and hyperactivity, irritability, sleeplessness, anorexia and weight loss may result. Also, there are many parents who can give more to their children than any nursery school and these children should of course be kept at home.

The decision as to whether or not to send a child to nursery school should be made only after considering the personality of the child and the parents, the type of school available, the number of hours at school, etc.

The age at which a child should be sent to nursery school varies with the child, the home environment and the school. Certainly some children of 2 or 3 or even 4 years are not able to accept the new and unusual situation which the nursery school presents. The most frequent difficulties encountered relate to the separation from the home and are therefore more striking in the overprotected child. Crying at parting from the mother, nausea and vomiting, day-wetting, refusal to play with other children, shyness, refusal of food, lack of cooperation and various attention-getting mechanisms which may have been successfully avoided or handled at home sometimes occur as well as temper tantrums, domineering attitudes and, especially, disobedience. There is not as much supervision and routine at some nursery schools as in the conventional kindergarten and therefore the timid, shy child sometimes has difficulty in making an adjustment.

GRADE SCHOOL

With entrance into school a new phase in the child's development begins which assumes a larger and larger share in molding personality as the child grows older. Realization of this has recently led to closer collaboration between parents and teachers in child training. In America, school attendance begins at 6 years but it is sometimes advisable to start earlier or to delay entrance for a year or two depending on the health and mental status of the child.

The greatest satisfaction in school is attained when the child is working at his true level of ability. In a general way the mental level of the child should determine his proper grade. Wile found the basal age (see p. 61) to be a better guide for prediction of success at school than the mental age. In most schools children are promoted by age rather than by school performance. Generally speaking, bright children are held back while dull children are pushed beyond their capacity.

School should not be looked upon by parents as a welcome relief from responsibility nor should it be dreaded as a time of separation from the child. Most children accept school readily and, if there is no emotional pressure at home, adjust themselves easily to the new environment. A few children find the transition from home to school difficult and it is necessary for the teacher to use

good judgment and kindness in order to change this fear and dislike to interest and pleasure.

Difficulties on Entering School.—Of the reasons why children are unhappy on entering school the most important is the emotional status of the child. There may be excessive shyness, fearfulness, immaturity, overdependence on the mother, lack of confidence, outbursts of anger and temper tantrums, unwillingness to adjust to the other children, lack of initiative. These personality difficulties result mainly from improper training and discipline in the home.

A second reason for difficult adjustment in first grade is the intellectual status of the child. This does not refer only to the mentally retarded who may find competition with the normal group difficult but also to children who are immature mentally and are unable to pay attention and concentrate. There may be a meager background of experience and hence the difficulty in adjusting to a routine which is easily accepted by most 6-year-olds.

A third important handicap is poor language development. There may be voluntary refusal to speak which sometimes persists for weeks. The speech may be babyish, indistinct and difficult to understand or the vocabulary may be so limited that the child is often at a loss for words. In some instances speech is rambling, lacks continuity and the child is unable to express himself concisely. With intelligent cooperation these difficulties can be overcome and in most instances the child is able to become a useful member of the group within a few months.

Reasons for School Retardation.—*Mental retardation* is a common cause of school difficulty. If the child has a Mental Age below 6 years he will be unable to complete the work of the first grade satisfactorily. Often these dull children are promoted, either to get them out of a class, or so that they may more quickly be placed in an ungraded class which in many schools does not start until Grade III. A dull child in a class which is too advanced for him will be bored, inattentive and troublesome. If not promoted he may be ashamed of his low school grading and this adds an emotional difficulty to the other factors which make his work unsatisfactory.

Failure in school is most often due to *improper placement.* If a child is in a grade which is too advanced for him the effort to succeed will be too great and failure will follow frequently. On the other hand a bright child who is graded too low may react in a similar way. He is often bored by the efforts of his less able classmates and he is apt to be inattentive and disturbing to the other children. He clowns when he should be attending to his work and hence his performance is poor. This may make his teachers believe that he is graded too high rather than too low. When the child is younger than the average there is, in addition, the difficulty in adjusting socially to the older group. Furthermore the young child is apt to have gained a reputation for cleverness in a lower grade which he may be unable to live up to in the higher grade thereby adding an emotional factor which further interferes with his performance. Too frequently teachers fail to take age into account when judging brightness so that a 12-year-old child doing *A* work in fifth grade may be considered more clever than a 9-year-old doing *B* work.

Failure to do successfully all or part of the work at school does not always result from mental retardation or poor placement. Some of the difficulties are related to *special disabilities* such as reading, writing or spelling (see Chap. XVI). The schools now recognize these difficulties and many offer special instruction. Language difficulties, particularly stuttering and incomprehensible speech, are disturbing not only to the individual himself but to the entire classroom. These children are called upon to recite only occasionally and hence have little opportunity to succeed. They become worried and embarrassed. In many instances they are much more retarded in school work than their I.Q.'s would indicate.

Physical defects may be a reason for poor work in school. Disturbances in vision are not uncommon. In 1931 a survey showed that there were about 50,000 school children in the United States whose vision when corrected was less than 20/70 in the better eye. Of these less than 5000 were enrolled in special classes. Some schools have facilities for special eye examinations and offer opportunities for procuring glasses. Poor fusion is the basis of many reading and writing difficulties. Though partial deafness was found in about 3 million children in the United States in 1931, only 18,000 were enrolled in special schools and classes. The I.Q. of these hard-of-hearing children averages below 100 and adds to their problem. Naturally disturbances of vision or hearing tend to retard the child in understanding of class work.

Any *deviation from the usual* in appearance or behavior may cause the child to be ridiculed and teased at school. Red hair, squint, lameness, left-handedness, hare-lip, fall into this group. No child likes to be different from other children and many are unable to endure the teasing. They become emotionally upset, unhappy, insecure and often develop an intense dislike for school.

Hyperactive children often do poorly at school. They are unable to sit still or concentrate. They are inattentive, squirm at their desks, draw pictures and walk about the room. They are a great source of disturbance in the class-room and are an annoyance to the teacher. Many of the younger children are *chronically fatigued* because of the long hours, the unaccustomed necessity to sit still and the loss of the afternoon nap. These children need more rest if they are to do satisfactory school work. There are special open air classes in many schools but they do not usually admit children who are only in need of extra rest.

Extracurricular activities such as special lessons, attendance at religious or foreign language schools or social activities may deflect interest from school work or interfere with adequate rest and keep the child continually below par. Furthermore play time may be restricted in this way. This is much more common than is generally recognized and all but the most important activities are to be discouraged except in the unusual child who has the physical stamina and interest to manage a heavy schedule.

Absence from school is an occasional reason for school failure (see p. 206). Chronic illness such as rheumatic fever or nephritis may cause prolonged absence from school. In many instances the child can keep up with his studies by working at home. This is advisable, not only from the scholastic standpoint, but also because the child is relieved of anxiety about his school work and is consequently more contented.

Certain children are unable to succeed because they *need more supervision and direction than the average.* These children do poorly in progressive schools where so much is left to the child's discretion. A change to a conservative school will greatly benefit this type of child.

Failure in school may be the result of *emotional difficulties.* Levy, in a study of the school achievements of fourteen children whom he considered to be overprotected, found increased achievement in reading, language and history and retardation in arithmetic and science as compared with other groups. To explain this he suggests that the overprotected child has had unusual opportunities in verbalization and often advantages in reading because of his close association with adults. He therefore succeeds in subjects requiring more reading and language facility and does less well in those requiring rote memory. Lack of opportunity for responsibility such as handling money, travelling alone may adversely influence his achievement in arithmetic. Levy found a more regular degree of achievement in a group of rejected children with slightly more retardation in reading than is average and little retardation in arithmetic.

Where there is *parental incompatibility and friction at home* the child may be worried and unable to concentrate on his school work. If the cause is not recognized and corrected the added failure at school will cause further emotional disturbance with still less ability to concentrate. In some instances, when the parents are separated, the child is unable to face his schoolmates and develops feelings of shame and insecurity which interfere with his performance at school. Often much time is spent in trying to work out a way in his own mind to bring his parents together again.

Only in rare instances is the grade school child *worried about financial conditions* in the home. When this does take place it is usually in homes where there is excessive discussion about money and where the parents themselves are greatly concerned. It is more common at high school age.

In some homes a *great deal of pressure* is exerted by the parents for success in school work. Parental ambitions may be out of proportion to the child's capacity to achieve and there may result severe emotional disturbances. Worry makes concentration more difficult and the school marks drop lower. Sometimes the child gives up and refuses to try. He may run away from home, especially if the parental displeasure takes the form of severe scoldings or whippings, and there are occasional attempts at suicide. This is especially apt to take place when the parents appeal to the child to do better for their sakes or when they repeatedly emphasize the sacrifices which they are making for the child's education and the advantages they are giving him.

A few words with the parent by an understanding teacher or from the physician will often be sufficient to relieve the parental pressure. In most instances the parents are sincerely interested in the child's welfare and are readily convinced that their attitude is causing school failure rather than success. It should be emphasized that this situation is commonly seen where the children are intelligent and have been doing satisfactory school work but where, because of too rapid promotion or too keen competition, they are unable to get the top grades which the parents desire.

Failure to do adequate school work is sometimes seen where the child is a member of a racial or religious group which differs from that of the majority of the children, where he is evidently from a different social or economic group, or where he has some defect or talent which makes him conspicuous.

The management of school-retardation or school failure depends on the etiology. Careful attention should be given to the physical status of the child, and visual and auditory defects should be investigated. Where indicated an intelligence test should be done. The relation between the I.Q. and school achievement may be determined with the educational achievement tests. In this way it is possible to find out whether the child's work is up to his mental capacity. If not, the reasons should be sought in the age of entrance, frequency of absences, change of school, emotional difficulties. The school record should be scanned for specific disabilities, the commonest of which is reading. Where these are present special training procedures are necessary.

A note from the teacher regarding the child's work and behavior in the classroom are helpful. The tone of the teacher's letter will assist in evaluating her attitude toward the child and may indicate the advisability of having him transferred to another class.

Where the home situation is unsatisfactory corrective advice should be given. Release of excessive pressure on the child for superior grades often has a beneficial effect on school achievement.

At a later age certain children who have been unable to make a satisfactory adjustment at home find in school a welcome change of environment and a chance to succeed. These children are not necessarily good students but they are usually interested in their work, willing to study and anxious to please. Sometimes a child will form an attachment for a teacher in such a way that she can successfully achieve the place of parent substitute. This may be a solution for the rejected child.

When the child enters school many of the responsibilities previously assumed entirely by the home must now be shared by the school. The teacher must deal not only with the many and varied intellects of the children but is confronted also by their personalities and ever-changing emotions. Unfortunately in the majority of schools it is impossible for her to give much attention to the individual needs of her charges as she is fully occupied with routine duties. Many children suffer from this situation especially those who are shy or have been overprotected by their parents. They are often unhappy at school, getting no attention from the teacher and unable to make friends.

SPECIAL CLASSES

Ideally each child should be educated according to his ability to learn. This would involve classes for the superior child where there would be opportunity for more intensive study and work in wider fields, for the dull child where he could learn a simple trade, for the child with special talent where he could become competent in music, art, etc., for the hard of hearing, blind, etc. Some communities have been able to provide one or more of these special classes.

Ungraded classes for retarded children have been in existence for many years. The I.Q. of the children in these classes is generally between 50 and 75 and they must be 8 years old or in the third grade. The aim is to give greater consideration to individual differences than can be done in regular classes and to provide a better opportunity for socialized and self-expressive activities. The children are occupied with concrete tasks and an attempt is made in some schools to prepare them for a suitable vocation. Progress is necessarily at a slow rate. The accomplishment in one year is usually only about one-half that of the regular class. A real advantage is that these children do not need to compete with children superior to them in intelligence with resulting failure.

In some schools there are *special classes* where the child who is deficient in certain specific subjects has the opportunity for remedial work. Reading difficulty is the commonest problem. The classes are small, the pupils are of average or better than average intelligence and the teachers are specially trained for the work.

In addition there are in some cities special classes for the crippled, for those defective in speech, for the cardiac, the hard of hearing, visually defective (referred to as sight conservation classes), etc. In some instances special facilities for taking the children to and from school, special rest periods, open air classes, etc., are provided.

Classes for superior children are organized in some States, notably New York and California. Children are admitted on the recommendation of teachers and on the results of intelligence and achievement tests. In most instances the I.Q. must be 140 or over. These children usually do brilliant work in the special classes and their social adjustment is far better than when they are placed in school with the much older normal child.

HIGH SCHOOL

In recent years the number of children attending high school in America has increased rapidly. Whereas only about 2 per cent of children of the proper age attended high school in 1880, in 1930 about 50 per cent were in either high school or college. The curriculum has also changed. Formerly the principal subjects taught were Latin, Greek, mathematics and English. At present there is less stress on Latin and Greek. In fact these subjects have been dropped in many high schools and the physical and biological sciences, economics and modern languages have been added.

Function.—The function of the high school is to lay the foundation for whatever work the child plans to do as well as to prepare him for future training in college or technical school. The curriculum should therefore be practical to a considerable degree. It is desirable in all walks of life that the child learn how to speak, read and write English properly. Some mathematics is necessary and some understanding of the modern languages. In addition history, social science and civics will help the child to understand how other people live and to adapt him to his social group. Further than this there should be some leeway as to choice of subjects.

Courses.—In certain cities there are not only academic, general, scientific and technical courses which prepare the student for college but commercial courses and vocational courses of various sorts as well. In some of the larger cities a music and arts course of high standing is also offered. An I.Q. over 100 is probably necessary for the successful completion of any of these courses. School success is roughly proportional to the I.Q.

Many high schools are coeducational but in some cities segregation of the sexes has been found to produce better academic work with less distraction and wasteful diversion. Segregation decreases the opportunity for the development of adolescent infatuation and calf-love but more often fosters crushes, especially between girls. The advantage of coeducation is that it affords the opportunity for normal, friendly contacts between the sexes and a more healthy emergence of adolescent emotions.

Causes of Failure.—Many of the factors which lead to failure in grade school, such as misplacement in school, physical defects and special disabilities, continue to play their part in high school. Emotional problems in the home assume less significance as the child's attachment to the family group becomes less intense and a rationalization of childish emotional responses takes place.

Mental retardation becomes of minor importance since most of the children of I.Q. less than 100 have been weeded out. There are, however, some children in high school whose intelligence is not adequate to comprehend the material offered. They remain, usually, because of the parents' determination to give their children every educational opportunity. They are unhappy, not only because they are failing in school, but because of the insistence at home on good marks. When pressure is too great truancy, lying and running away are apt to result. The child may become ashamed and depressed and suicides occasionally take place. In some instances transfer from an academic to a commercial or trade course will allow the child an opportunity to work where he has some chance of success.

A not uncommon cause for failure in high school is the *inability to compete with a group of superior children.* Thus, in a school where the average I.Q. is 120, the child with an I.Q. of 100 will find it difficult to succeed though he may do well in another school where the average I.Q. is more nearly like his own.

Occasionally a bright child may have been promoted so rapidly that when he reaches high school he is too young to compete successfully with the more mature students of average intelligence. Difficulties arise because of his lack of experience, poor social adjustment and easy fatigue owing to a less robust physique.

Less frequently failure is due to *improper selection of the high school course* as, for example, when a child with musical ability takes a commercial course. The child may be quite capable of success but lack of interest in the subject may keep him from working up to his capacity. Educational achievement tests and vocational tests are of considerable value in placing the child in the proper group.

It must be remembered, also, that, because of the sifting out of so many mediocre children at the end of grade school, the high school pupil has to compete with a much more highly selected group. In many instances his work is

poorer in relation to that of the other students than it was in grammar school. His disappointment and worry because of this and the concern of his parents may prevent his concentrating in his studies and so decrease the quality of his work.

Worry about economic difficulties at home may hinder the adolescent's progress in school. He may feel that he should be helping the family financially and so may obtain work after school hours, thereby decreasing the time available for study. When the parents are insistent on the child's remaining in school he may be unable to do good work because he is harassed by the fear that he will not be a credit to his parents after the sacrifices they are making for him. The parents may also exert pressure on him to make the most of his opportunities.

Unpopularity is an important cause of failure in high school. Acceptance by the group is very important to the adolescent. Exclusion by schoolmates leads to insecurity and withdrawal. The child may refuse to join in sports and school activities and so increase the gap between himself and his comrades. Worry over this may prevent adequate concentration and poor marks will follow. When this situation is pronounced the child may refuse entirely to attend school. Occasionally children, who are unpopular and withdrawn socially, concentrate on school work and enjoy the praise obtained from parents or teachers for good marks. They do better than one could expect from their I.Q.

Social activities are apt to interfere with school especially toward the end of the high school years or even earlier when the student is more mature than the average. There may be movies and parties which keep the adolescent out late so that his work is unprepared and he is tired and inattentive in school the next day. Again adolescents are apt to spend hours in conversation and discussion with friends, often talking far into the evening and leaving little time for preparation of assigned work.

Crushes and calf-love are common during the high school years. Both are time-consuming, cause considerable emotional distress and detract from school work. Parental pressure for discontinuance of the infatuation only does harm and teasing or ridiculing the child increases the emotional disturbance.

In private schools, the classes are usually smaller and there is, therefore, more opportunity for personal contact with the teachers. An attempt is made to differentiate carefully between children who are college material and those who are not. A large proportion of children from private high schools go to college, both because of the higher economic level and because the average I.Q. is considerably higher than in the public school.

TRUANCY

Truancy means remaining away from school without leave. The term is ordinarily used for the child who stays away from school because he so chooses but this is one of the least frequent reasons for unnecessary school absence.

Parental indifference toward school is the most common cause of truancy. In families where the mother is employed, the oldest child may be kept at home to assist with the work and the care of the younger children; and the same is

true in motherless families and where there is more housework than the mother can manage. Under such circumstances the necessity for keeping the child from school can often be obviated by giving advice as to how to manage the home situation more efficiently. It may be possible to place the younger children in a nursery. If several children share the work there is usually time for them all to attend school. Time-saving equipment can sometimes be installed. In some families the mother or father do piece-work at home and one or several children may be kept from school to assist with this in order to increase the family income. Bead-stringing and button-hole making are examples of the kind of work which children can learn to do quite efficiently. In states where child labor is illegal, the situation is best handled through the courts. The disadvantages to the child should be brought to the attention of the parents.

Illness of the Child.—The second most frequent reason for truancy is illness of the child. This is, of course, a justifiable reason but some children are kept out of school for an unnecessarily long time after recovery or remain at home because of a very slight illness. This is most common where there is parental overanxiety. In some families mildly inclement weather is sufficient to keep the child at home. There are children who have never attended school at all because of some minor illness or because of an ailment which is curable but has gone untreated. In such instances the parents are usually indifferent to the child's education but sometimes they are unaware that the condition can be cured. The unwillingness of the overaffectionate mother to be separated from the child may also play an important part. A conference with the doctor or the school nurse will frequently be sufficient to return the child to school.

Four other reasons for truancy may be mentioned in the order of their frequency: Ignorance of the law of compulsory school attendance, illness or death in the family, lack of clothing and books, and religious holidays. Methods for correction are obvious and need not be discussed here.

Difficulty with School Work.—Wilful truancy is the seventh in order of frequency as a cause for school absence and is most commonly due to difficulty with school work. The child, unable to comprehend what is being taught, is ashamed to display his ignorance in the classroom and so remains away. A vicious cycle results, the child dropping further and further behind in his school work and remaining away more and more.

Forty to 50 percent of truants are retarded mentally but this is the reason for truancy only in a moderate number of cases. Though difficulty with school work is often dependent on low intelligence, this is not always so. The child may have been ill and missed the introductory lessons in a new subject; there may be a special disability, as in reading; there may be a visual or auditory defect; or the child may be in a group which is too advanced for him. In some instances the child's school performance is adequate but does not come up to the expectations of ambitious parents who demand excellence. In private schools where the I.Q. of the group is apt to be somewhat above average, a boy with an average I.Q. may have difficulty whereas at public school he would not be inferior.

Truancy not infrequently occurs where the child is too advanced for his group

and hence finds the school work dull and uninteresting. He is bored and tires of listening to the slower children struggle with simple problems. His attention wanders and he occupies himself with drawing, whispering or pranks. When called upon to recite, he is unable to answer correctly because he has not heard the question and he then receives a low mark in his work as well as in conduct. Sometimes his examination performance is excellent; at other times the child is not sufficiently interested to bother with tests and writes his answers casually; in still other cases he is actually unable to give correct answers because he has not attended to the daily assignments and has paid no attention to classroom recitations. As a result he is not promoted and during the next term he is still more bored and continues to stay away from school whenever he can. These children are usually classified at school as truants or behavior problems. The fact that they have high intelligence is often overlooked by their teachers who are reluctant even when so advised to advance them one or more classes in school. This, however, generally corrects the difficulty. As the children are bright, they can do the more advanced work and, being interested, are willing to study harder to make up what they missed.

Aside from difficulty with classroom work there are other situations which may make the child unhappy at school and so lead to truancy. If the teacher is unpleasant or frightens the child, or if he feels he is discriminated against, a sensitive child may prefer to stay away. Unpopularity with the other children may also be a reason. The child may not be liked because he is in some respects different from his schoolmates. Grammar school children, particularly boys, prefer to be as much like their schoolmates as possible. Inadequacies or oddities in dress, mannerisms of speech, the presence of physical defects may be sufficient to cause dislike. He may be unpopular because he is a poor sport or a tattle-tale or because he is the teacher's favorite. These difficulties can usually be corrected by a conference between parents, teacher and physician. The child should be correctly placed in school and given special instruction where he has difficulty. The parents should understand that it is unfair to expect more than the child is capable of giving, the teacher may be able to modify her antagonism or the child may be transferred to another group of the same grade; clothes may be standardized and physical defects corrected, or, if this is impossible, the condition may be discussed with the child and he may learn to see his defect without shame or embarrassment.

Outside Interests.—Occasionally the causes of truancy are remote from school. The child may wish or need to earn money and he therefore stays away from school looking for a job or working. There may be outside activities which are more pleasant than school, such as ball playing, fishing, gang play. This is less common than one might suppose and is more likely to occur where the child plays with a group of boys who are beyond school age.

Sometimes truancy is incidental to running away from home. The child may have no difficulties at school and even enjoy his work there, but, since leaving home necessitates absence from school, the situation is misunderstood and instead of seeking the cause for running away, false emphasis is placed on the truancy.

Truancy usually is not difficult to cure if one can determine the cause. A study of the home situation should first be made, then the school and thirdly the child.

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CHAPTER XXIII

ADOLESCENCE

Definitions. Endocrine Changes, Endocrine Disturbances, Menstruation, Hypogonadism, Short Stature, Obesity, Thyroid. Physical Growth. Mental Growth, School Difficulty, Education. Self-Dependence. Companionship. Sex and Love. Social Activities. Economics and Politics. Religion. Day-Dreaming. Vocation.

Puberty, by which is meant the first stage of sexual maturity, takes place in American girls at about 13 or 14 years and about one year later in boys. In girls it is marked by enlargement of the breasts, changes in body form and the appearance of the menses; in boys by the growth of the beard, change in the voice and the appearance of pubic and axillary hair. The menarche precedes ovulation or the ability to reproduce by one to three years and this interim is sometimes referred to as the period of early adolescent sterility.

Adolescence is the period between puberty and full physical maturity or cessation of growth in height. This is reached at 18 to 20 years in American girls and about 2 years later in boys. Superior children, on the average, attain maturity early while mentally defective children tend to mature late.

Apart from the first appearance of the menarche there are no sudden changes during adolescence; the child grows by imperceptible degrees into the adolescent and the adolescent turns by gradual degrees into the mature adult. The gradualness of the changes makes it hard for the parents to realize what is happening and this failure to perceive the transition from childhood to maturity brings many problems of adjustment into the life of the youth and his parents as well.

The adolescent period is characterized by (1) changes in endocrine activity, manifested by the appearance of secondary sex characteristics and, with them, different and more intense sex feelings, (2) rapid physical growth with accompanying motor awkwardness, (3) rapid mental growth and (4) a broadening of emotional interests.

The rate at which children mature varies widely. Even in the same child the various aspects of adolescent development do not necessarily proceed at the same rates. It is not uncommon, for example, for a child to grow rapidly in height while emotional development follows at a slower rate. There results, from these discrepancies in growth within the same individual, a certain amount of imbalance and emotional instablitiy which must be reckoned with. The adolescent should not be called upon to live up to his most advanced developmental phase.

The aim, in dealing with the adolescent as with the younger child, is to offer an environment which will permit optimal development of the innate potentialities. This is best attained by giving the parents a proper appreciation of the

physical and psychologic changes which are to be expected during this developmental phase.

From the mental and emotional points of view adolescence is very largely only a maturing of individual traits and habits of thinking and acting that have been developing since childhood. What takes place at adolescence is largely determined by what has taken place in the training of the youth before that period.

ENDOCRINE CHANGES

The age at which menstruation begins varies from the tenth to the seventeenth year. In many girls the menses become regular quickly while in others there may be a period of irregularity lasting for many months or even years. Enlargement of the breasts appears occasionally as early as 9 or 10 years. This may be unilateral at first and may cause concern and embarrassment. The parents can be reassured that this is a natural phenomenon and that there is no tumor or other abnormality.

In adolescent boys there are two normal processes that are sometimes disturbing, erections and emissions. Erection is not a new experience to the boy entering the adolescent period but its increased frequency and greater intensity often trouble him. Involuntary excitement may be a cause but memory associations and disturbing desires may also tempt the boy to voluntary repetition. In this normal erotic process is the beginning of the battle for self-control. Abundance of hard work, both physical and mental, plenty of strenuous play and avoidance of sex stimulating situations and of day-dreaming are helpful.

Endocrine Disturbances.—The large majority of adolescents who are regarded as presenting endocrine problems will develop normally if they are handled sensibly. *Primary amenorrhea,* with failure of development of the secondary sex characteristics, is of unknown etiology. Available gonadotropic substances only occasionally yield favorable results. Though the primary difficulty cannot be corrected, injections of ovarian follicular hormone may be expected to give certain desirable effects. The bleeding which follows is not true menstruation but comes from a proliferative endometrium, which results from the hormonal treatment. Repeated injections of adequate amounts of the hormone lead to the appearance of the secondary sex characteristics and to an enlargement of the infantile uterus.

Disturbances in menstruation, such as *dysmenorrhea, menorrhagia and metrorrhagia* are not uniformly influenced by hormonal preparations. Occasional favorable results follow treatment with ovarian follicular hormone, progesterone and thyroid. The male sex hormone (testosterone propionate) has been used with good effect in some girls for the immediate control of excessive bleeding.

Hypogonadism, with or without failure of the testes to descend into the scrotal sac, is not uncommon. It is seen most often in obese boys, the large majority of whom recover entirely without specific treatment. The descent of the testes into the scrotal sac can be hastened, in a considerable proportion of cases, by the use of gonadotropic substances in pregnancy urine and certain anterior pituitary extracts. Favorable results are more apt to take place where the condition is bilateral than unilateral. Treatment is rarely indicated before 10 or 12

years of age. An undesirable side effect of this treatment is the premature induction of puberty. A four- to six-months course of specific treatment is indicated before resorting to surgery. Acceleration of gonadal development may sometimes be induced by loss of weight from control of diet and systematic exercise.

Short Stature.—In children who are unusually short nothing can be expected from the use of anterior pituitary growth substance or thyroid unless there is definite evidence of disease.

Obesity.—Obese children should be taught to eat in moderation a diet containing an adequate amount of protein, calcium and the accessory food substances. Vigorous dieting should be avoided and thyroid preparations should be used only where deficiency is present. Physical exercise is to be encouraged.

The Thyroid.—Goiter is widespread among adolescent girls in goitrous regions. It is not uncommon elsewhere and is often familial. The gland shows simple hyperplasia and involution takes place spontaneously during adolescence. It can be hastened by the use of iodine which may be given conveniently as the syrup of hydriodic acid, 1 to 2 cc. daily. With this treatment, involution ordinarily takes place in 6 to 8 weeks.

PHYSICAL GROWTH

During adolescence there is a sharp increase in the rate of physical growth. The upward swing in the growth curve begins somewhat before puberty and continues at a rapid rate for 3 to 4 years after which there is slower growth until full maturity is reached at 18 to 20 years in girls and 20 to 22 years in boys. Accompanying the rapid growth rate there is an increased need for food. The basal metabolic rate remains unchanged. It has been estimated that the daily food requirement during this period is between 2400 and 3000 calories for girls and 2600 to 4000 for boys.

The increase in stature during adolescence is attributable mainly to the growth of the lower extremities, the trunk growing relatively little in length. There is also rapid growth of the upper extremities. The trunk grows rapidly in width, the shoulders becoming broad in boys, the hips in girls. There is little growth in head size.

Increased weight during adolescence is due mainly to the greater weight of the muscles and skeleton. Whereas at 8 years the muscles account for only 27 per cent of the body weight, at 16 years they make up 44 per cent. The heart doubles its weight, but the remaining visceral organs grow relatively less than the muscles. The thymus gland and other lymphatic tissues diminish in size and the genital organs grow rapidly. There is little growth of the nervous tissues.

Rapid physical growth is a source of worry to both boys and girls as it is usually accompanied by awkwardness and ungainliness, the arms and legs seeming too long and the hands and feet too large. The change in voice in boys may become a subject for teasing or worry. Shaving may also be a problem. The parents not infrequently embarrass the boy by objecting that he is too young to shave when he and his friends think it time to begin. In America the first shave usually takes place at about 16 years.

Shortness of stature is often a matter of concern to boys. On the other hand girls are more often worried because they are too tall and they may adopt a slumped-over posture in an effort to appear shorter. The discrepancy in height between boys and girls is owing, in part, to the fact that the adolescent spurt in growth of stature begins somewhat earlier in girls.

Fatigability is common in adolescents and is probably associated with the energy required for the rapid physical growth. The adolescent enjoys sleeping late in the morning and frequently indulges in sleeping for many hours at a stretch. He often complains of fatigue, particularly when asked to do tasks in which he is not interested.

Undernutrition is frequent and, in girls, may result from voluntary dietary restrictions on the basis of the boyish, flat-chested ideal of feminine beauty. In boys the condition is ordinarily associated with physical overactivity.

MENTAL GROWTH

Adolescence is marked by rapid growth in all aspects of mental power, judgment, reasoning, comprehension, speed of performance, memory, concentration. Mental maturity on I.Q. tests is reached at about 14 to 16 years of age but it is highly doubtful whether full mental power, or capacity to learn, is attained at this age.

The shift from elementary to high school, and from high school to college often leads to problems because of the change in the competition level. Between the lower and the higher schools there is a sifting out of the less competent adolescents. This leads to a rise in the educational and scholastic level and hence higher standards and heightened competition. Thus a child who was near the top of his class at elementary school, may be in the upper tenth of his class in high school and in the first quarter of his college class. As the child advances along academic lines greater intellectual power and effort are necessary to maintain previous academic status. The inability to compete as effectively as formerly may introduce emotional factors which further reduce achievement and actually lower the capacity to work.

School difficulty is sometimes encountered in children who have been pushed rapidly through the lower grades and hence find themselves obliged to compete with more mature students of equal intelligence. Whereas they formerly excelled in their grades with a minimum of effort they now find it necessary to work hard for average grades. Many of these children have failed to develop correct habits of study and hence they find themselves dropping behind. Others are unable to understand their inability to excel as well as formerly and loss of confidence results. Parental disappointment at the child's failure to maintain previous excellence of grades may further depress the child.

Education of the adolescent should include adequate preparation for work, intelligent use of leisure and social adaptability. This involves the broadening of the emotional as well as the intellectual field and is accomplished through meaningful contacts with teachers and schoolmates as well as through an understanding of much in literature and philosophy. Enrichment of life comes through art,

music, literature, natural history, manual training, physical education, etc., the beginnings of which may be incorporated into the school curriculum. High schools help the child to formulate his economic and social ideas. Civics, sociology, economics, philosophy as well as an understanding of social organizations and government of previous centuries will give the child a better background with which to evaluate his relation to society.

Educational discipline under proper direction will promote maturity along intellectual, emotional and social lines. Through the discovery and development of the child's individual abilities he will get satisfaction as well as knowledge from what he is doing. Through training and educational guidance he will be better fitted to accomplish the work he chooses and he will be more apt to experience the satisfaction of success.

SELF-DEPENDENCE

The intellectual characteristics of the adolescent are influenced by a rapidly growing independence of thought and action. The child, formerly willing to accept information uncritically, now starts to doubt and to challenge. There is loss of the idea of parental infallibility and the teacher's position as an authority is questioned. The desire to establish himself as an independent personality often leads to the expression of judgments which seem foolish to adults but which are quite reasonable to him on the basis of his limited experience.

The mental activity of the adolescent is fostered by his ability to escape the protective care of the home. He is thereby permitted to explore the world and to have experiences hitherto closed to him. In this way new desires, interests and ambitions arise.

Each period of life requires that something be relinquished. Adolescence necessitates the giving up of childhood and detachment from the emotional and, eventually, from the economic dependence on the family. This is often painful. The problem of throwing off childish dependency is especially difficult for only children, for youngest children and for physically delicate children and it is harder for girls than for boys. The attachment to protective parents and submission to dominating parents are especially difficult to escape. Mothers who find their own lives uninteresting are apt to try hard to keep their children dependent on them.

An increasing amount of freedom is desirable as the child matures and in this the parents can help greatly. They should begin to teach independence and self-reliance during early childhood. At adolescence they should make suggestions and give advice but should not become impatient or take offense when the child makes his own decisions. Especially they should not scoff at his mistakes. The adolescent is very sensitive and is only too conscious of his failures. Reassurance about appearance, kindly advice on behavior, parental interest in his social activities will help him through this awkward period. The chronologic age of the child is not as good an indication of what freedom should be permitted as the maturity level and an appreciation of what is customary behavior among the children with whom he associates. Parents must be tolerant of the group.

The parents should not insist on their own way of living as the only possible one but should, instead, assume an understanding attitude and try to make life congenial. If the adolescent is proud of his parents and pleased with his home, he will want to bring his friends there and will experience a feeling of satisfaction and confidence.

Toward the end of adolescence the child should have broken the habits of childish obedience, dependence and protectedness which are fostered by the immaturity of childhood and should be ready to face the world and make his own decisions.

Becoming independent does not necessitate leaving the home, although in some cases that is automatically involved. There are persons who have fully accomplished their emotional independence and who continue to reside with their parents; there are others who live far away yet have never freed their minds from childish dependence upon their parents or from childish obedience to them and who always expect the world at large to protect them as their parents did in the home.

Nor does emancipation from parents imply disorderly conduct, defiance of legitimate authority or insolence. Some of the most conspicuously unweaned of adolescents are the most insolent and troublesome and behave like infants. By independence is meant a detachment from the family in the emotional life to such an extent, at least, that there are no binding ties to interfere with reasonable personal choice and achievement of most of the adult decisions such as vocation, marriage and individual attitudes toward life, politics and religion.

Emotional weaning does not mean self-sufficiency. It is natural to wish to share joys and triumphs with loved ones and to seek for comfort and sympathy in times of stress and adversity. The mature person will appreciate his home for what it is worth and will cherish it but he will at the same time realize that it is no longer the center of his universe.

During the past few decades there has been a prolongation of the period of economic dependency of the child on the parent. The school years have been extended and marriage has been delayed. Parents should not falsely interpret this financial dependence as involving emotional dependence. They should be careful to avoid giving the child a sense of obligation or gratitude.

Many of the problems of adolescence arise from the attempts of parents to force the child into a preconceived pattern. Instead the adolescent should be helped and guided in forming his own ideas regarding social relationships. He must conceive for himself his duties, obligations and responsibilities to society and make good use of the assistance and opportunities he receives in return. It is the parental coercion concerning his behavior at home, his social life, friends and choice of work which creates most of the problems and conflicts of adolescents. Too often at this time, when the youth should be gaining independence, the parents tighten the reins of discipline.

Certainly some individuals never become emotionally emancipated but remain dependent on family ties, unable to take responsibility and petty in their attitude toward their contemporaries. Not unusual are examples of homesickness in adolescents, or of children who have given up their lives to remain with and comfort

their parents; or of others who are so completely dominated by their families that even as adults they are unable to plan their own lives. Study of homesick adolescents has shown that their attitude is often bound up with desires for bodily comfort, food, clothing, shelter, etc.

Emotionally unemancipated adults usually present certain characteristics. They are rarely tolerated by their contemporaries. They are likely to expect special consideration from employers and this may lead to continual shifting about from one occupation to another. There may be failure in marriage, the unweaned person requiring the kind of treatment he had received from his parents. He expects to be waited on and comforted and finds difficulty in making decisions and taking responsibility. Sometimes a much older person is selected in marriage thus substituting a parent-child relationship for the normal marital relationship but this is rarely successful.

COMPANIONSHIP

With the growth of self-dependence and sex interest and the loosening of the attachment to the home, companionship with boys and girls of his own age becomes the most vital factor in the life of the adolescent. Clubs or groups based on common interests, ideas and opportunities are sought eagerly. Belonging means acceptance and this is important to all adolescents. Isolation or exclusion is unbearable.

The adolescent will accept criticism from his friends while he resents it from adults. Identifying himself with his group will help in giving him confidence. He learns how to act and what to say and gets some practice in group living. He loses some of his fear of social situations where he may appear at a disadvantage.

The degree to which the adolescent is influenced by the group depends upon his suggestibility and his independence of thought. The influence may be for the good and help him formulate noble ideas and high standards or it may lead him into fields of delinquency. The group or the gang is at the basis of much of the adolescent antisocial behavior.

Conversation and discussion contribute considerably to adolescent development and much time is spent in this way. There is a great need for exchange of ideas and sharing experiences with friends. This offers a means of satisfying the child's curiosity, of increasing his knowledge and of debating his opinion. Anything may be the topic of heated discussion but among the favorites with most adolescent groups are love, sex and morals, religion and ethics, vocational opportunity, economic standards and political concepts.

SEX AND LOVE

It is natural that, during adolescence when sexual maturation is proceeding rapidly, a great deal of interest should be centered on sex and love. In early adolescence most of the discussion is with members of the same sex but later, when more freedom and interest develop between the sexes, boys and girls

spend much time in discussion and conversation with each other. Sex is viewed in a more or less impersonal way. The adolescent is uncertain as to the behavior which indicates proper sexual adjustment. He is faced with practical situations and must make his choice of behavior. His standards are determined in part by what he has witnessed in his home, in part by the society in which he moves but mainly by the attitudes and actions of his contemporaries.

These discussions show the child that he is no different from his friends. They suffer as he does in adjusting their sexual desires to what is socially acceptable. Open discussion helps the child in formulating his own code of ethics and filling gaps in his understanding of the meaning of sex, love and marriage.

SOCIAL ACTIVITIES

Parents frequently need help in determining how much freedom they can allow their children. The type of clothes which the child wears should be so regulated that he will not feel conspicuous with his friends. With teen-age boys the wearing of long trousers is the first problem. Somewhat later smoking, drinking and the hour of returning home are foremost. Fortunately the legal age for driving a car is 18 years in many States and automobiles do not become a problem until then. With girls the kind of clothes to wear, the first evening dress and the use of cosmetics are often the subjects of disagreement. These may seem unimportant and foolish to the parent but to the adolescent they are of the utmost importance. Disagreement about evening social activities, about going out with boys, about chaperonage and suitable places of entertainment form a large part of the parent-child friction.

A great deal of tact is required on the part of parents. Subtle approval of proper behavior and disapproval of improper behavior of other adults or adolescents will do more to aid the child in choosing a middle path than strict rules and punishment. A word about etiquette when a new situation is encountered for the first time, or congenial planning of leisure time will often help the child through an embarrassing situation.

The adolescent girl is very conscious of her appearance and often needs reassurance. This is especially important with stout children and with children who are maturing rapidly. Proper, well fitting clothes will do much to improve the child's appearance. Brassieres, for example, for girls who have large breasts, should be properly fitted, and the most becoming styles in shoes should be chosen for children with unusually large feet. Assuring the adolescent that she is attractive, that she will grow up to be in proportion or that what she considers a defect is not unbecoming, will do much to give her confidence in herself and will help to avoid hours of unhappiness.

Sometimes parents or teachers can get together and formulate a plan of dress and social behavior for the group which is desirable and will be acceptable to the children. In many instances the parents are unduly rigid and need to be assisted in relinquishing their control. During this period the child needs a great deal of help and understanding from his parents. He must feel that they have confidence in him and so confidence in himself will develop.

ECONOMICS AND POLITICS

The adolescent is apt to indulge in a considerable amount of abstract thinking about religion, politics, economics and the universe at large. Concepts are inquired into, examined and, according to his make-up and background, accepted, criticized, modified or rejected. The discovery that many ideas which were accepted during childhood on faith are erroneous or unproved may cause him to cast aside conventional beliefs and to seek newer and more acceptable standards. He develops a philanthropic attitude toward the less fortunate members of society and toward social injustice and desires to do away with dirt, poverty and the unequal distribution of wealth.

Until new concepts are formulated or old ones reaccepted there is often a period of intellectual uncertainty and emotional instability. The adolescent is intolerant and critical but, at the same time, he demands tolerance and is sensitive to criticism. He is acutely aware of the opinions and attitudes of his elders. Although he has no faith in the accuracy of his own conclusions, he demands a right to his opinions. He wishes to live his life in his own way but he is surrounded by perplexities and dilemmas and is uncertain as to how he should act. He is inhibited by his early training and by his desire to retain his position in society.

The radicalism of the adolescent is a matter of concern to many parents. Throughout the world the youth has been found to be fertile soil for the implantation of false doctrines, and antidemocratic forces have received enthusiastic support from the adolescent in the dictatorships and even in the democratic countries. The attitude of the adolescent is based on youth's altruism and lack of experience. The directness and simplicity of the proposed solutions for the economic ills of the world appeal strongly to minds which are undeterred by an appreciation of the complexities of individual behavior and social organization. The attempt to escape parental control and the authority of society is often a strong determining factor.

Parents can do much to help their children understand society as it is and to improve it within the limits of their power. The adolescent who has been reared in an atmosphere where the democratic ideals of individual liberty are dominant, who is imbued with a proper sense of his responsibilities for right thinking and right behavior and of his obligations to his fellow men, will not be readly deflected by idealogic short-cuts.

RELIGION

Concern about religion is encountered in a small percentage of adolescents and in some of these it may reach alarming proportions. The religious beliefs of the adolescent are strongly conditioned by his training during the early years. He belongs to one religious group or another by reason of birth or of parental acceptance rather than because it better answers his needs. Confirmation usually takes place in early adolescence before the child is old enough to make a decision based on understanding of the conditions involved and he may there-

fore find himself a member of a church or with a religious affiliation which his maturing intelligence and greater experience cannot accept without question.

Discussions about the meaning of religions, creeds, God, the after-life, lead to a searching and groping and finally to an orderly formulation of ideas. The adolescent can no longer accept all that he was taught to believe as a child yet he lacks the knowledge and experience to formulate mature opinions. Several courses are open to him and, according to his previous training, his present associates and his own personality, he chooses one or the other. In most instances the adolescent takes the line of least resistance and continues in the creed of his parents but often without full conviction. This course is not always arrived at without conflict and frequently he carries with him a guilty feeling because of his lack of interest in the church and because his association with it is purely superficial.

At times the adolescent feels an acute need for religion during this period of severe emotional stress and he turns with great enthusiasm to the church in which he was reared. He seeks assistance and forgiveness from God and experiences comfort and satisfaction. He uses the church as a support and prop and satisfies his inquiring mind by answering that he is being benefited.

The searching and speculation of some adolescents bring forward views and concepts so greatly at variance with their earlier teachings that severe emotional conflict develops. It is hard to throw overboard ideas which have been ingrained since early childhood and to question religious concepts. Brooding, insecurity and anxiety may result. Some children respond by discarding religious beliefs and becoming atheists. A more usual result of the adolescent's inquiry into religion is his discarding of certain forms and creeds but his acceptance of the fundamental aims of religion. This may be followed by conversion to another faith which is better suited to his needs.

Sometimes the child grasps at another form of religion in the hope that this will lend him the support he feels he requires. Adolescence is the age of conversion. The true convert suddenly sees religion or faith or God in terms which he can understand and believe. Adolescence is also the age of religious fanaticism. At this period more than at any other some individuals turn to religion.

The adolescent is apt to be intolerant. Much of his struggle against religious belief springs from his unwillingness to accept the limitations of human reason. He fails to appreciate that fundamental concepts are based on faith rather than on logic. He is quite willing to accept the axioms of geometry though they are, by definition, not susceptible of proof; yet he often balks at accepting the axioms of a religious belief because it is not possible to offer proof of their validity.

Usually, after a period of uncertainty, his attitude toward religion becomes stabilized. He may continue to associate himself with the church of his choice but he is more tolerant of other beliefs. Proper training and parental example are the most important factors in this process.

The adolescent needs to know that religion means something more than adherence to a ritual. He should understand that basically it is a way of living, an attitude toward life and that his views toward fairness, honesty, justice, charity, tolerance, responsibility are intimately related concepts.

DAY-DREAMING

Day-dreaming occupies a considerable part of the adolescent's time. He is so frequently confused by the world about him that he seeks refuge in fantasy. His maturing emotions of love and sex are curbed by his self-consciousness and his desire to be accepted by society. He desires to accomplish so much more than is possible that he is overcome by his loss of confidence and his feeling of powerlessness. He would change society and yet he has not found his place in it.

In girls the content of day-dreams is most often romantic while boys dream of achievement. In most instances the fantasy is far beyond the possibility of attainment. Not infrequently the lack of correspondence between the ideal and the conduct of the adolescent is commented upon with undue severity by the parents. This discrepancy certainly does exist and depends on the impulsive fashion in which the child makes decisions without full appreciation of their ultimate effects. Such day-dreaming is motivated by desires, hopes and longings and by efforts to escape and to compensate.

Probably few features of adolescent behavior have greater possibilities for contributing to the healthy development of personality than the right kind of ideals. In so far as the ideal leads to better judgment of value in human affairs and wiser choices between impulses, to that extent does it contribute to the maturing of the personality. Usually the child grows away from the concrete ideals which he first cherished and gradually develops the abstract ideals of adult life.

If the adolescent has ample opportunity for pleasant social contacts and if he is permitted adequate freedom and independence he will have less need to avoid reality and seek solace in fantasy. He will spend less time day-dreaming and the content is likely to be more concrete and more often possible of realization. Many day-dreams are constructive and help the child not only in finding his place in society but also in the formulation of new ideas. In fertile minds day-dreaming may lead to invention.

VOCATION

Failure to find congenial and suitable employment is a prominent cause of discontent and maladjustment. Adolescents of superior intelligence usually lay the foundations for their work early, either with or without guidance.

There are many factors which influence the choice of an occupation. Parents frequently express preferences and young children appear to acquiesce or choose the vocation of one or the other parent. Though there is a general tendency to break away from home domination during adolescence these early conversations leave their mark. When the child shows lack of interest or unwillingness to accept the occupation recommended by the parents, friction may result. The parent feels thwarted and may be unwilling to consider any other vocation. Often the child must submit because of economic pressure but at times he is determined enough to insist upon another occupation or even to run away in order to avoid being forced to undertake some work in which he is not interested. In general vocational advice given during adolescence is received with reservation and is followed only when it conforms to the interests and ambitions of the individual.

The social esteem in which some professions are held is an important factor in determining vocational preference and interest. Occasionally the motive is compensation for some defect. Thus a boy suffering from a deformity or paralysis may desire to become an orthopedist. In many instances the salary determines the choice of employment. Some individuals choose a vocation because it is "easy"; thus teaching is sometimes chosen because of the short hours and long vacations. Journalism may be selected because it offers opportunity for excitement and travel.

The fear of not finding a position often takes hold of the adolescent and may reduce him to a state of panic. As an escape he may accept the first available job regardless of his fitness or its desirability, or he may retreat from the difficulty by enlisting in the army or, in the case of young women, by contracting a hasty marriage. One reason for this fear is that the adolescent often fastens his attention on occupations which are unsuitable for his age and training and therefore difficult to obtain. Much can be done to relieve the fear by proper guidance. The adolescent should be shown what type of work he can expect to do competently and told at what rate the positions in this field are falling vacant. He should know something of the general as well as local demand for the type of work he plans to do.

Sometimes a second or third choice of occupation is the successful one. It is logical that maturation and increasing knowledge bring better understanding of self and society. A better adjustment to life may bring very different motivations and consequently different vocational interests and preferences.

While vocational counselling and guidance do not seem as yet to be very valuable, this may be remedied in part by acquainting the child with various occupations and openings in hitherto unexplored fields. Absence of interest may result from lack of the background for understanding the possibilities of various types of work. With understanding, appreciation may develop.

Occupational success is only roughly correlated with I.Q. An occupation may require a certain minimal intelligence for success but, beyond that amount, success depends largely on other factors, especially interest and dexterity. For instance an I.Q. of 100 may be necessary for success in house painting but a higher I.Q. would not make one a better painter. Being a better painter would more likely be dependent upon whether one could use one's hands well, had a good eye for color and liked to do the painting.

The problem of vocation and marriage for the girl is much more serious than for the boy. Not only does child-bearing interfere with employment outside the home but the protective attitude of the mother toward her child is quite different from that of the father and requires a considerable part of her time and thoughts. For professional women the most important factor in determining the success of the combination of vocation and home is the attitude of the husband.

There are many special aptitude tests which have been used in an attempt to establish the suitability of the child and the young adult for a vocation. The Minnesota Mechanical Ability Test, devised by Paterson and Elliot, is a fairly good test of mechanical aptitude. It may be used for children from seventh grade to college level. The Zyve Test of Scientific Aptitude (published by Stanford Uni-

versity) is also useful. There are in addition tests of flying aptitude (aviation) by Henmon, of teaching aptitude by Coxe and Orleans, aptitude in medicine by Moss and various others.

Aptitude tests have been used mainly by individual organizations for the selection and promotion of employees but recently they have been applied in high school and college to aid the student to choose work in which he may hope for success, thus eliminating waste of time and money in study where there is no aptitude. These tests are still in their infancy and should not be too greatly relied upon. A given degree of intelligence may be equally useful in many different occupations and even an aptitude for the manipulation of tools may be useful in any one of several trades so that in most instances it is the general level of intelligence rather than special ability which is important for guidance.

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CHAPTER XXIV

UNDESIRABLE HABITS

Thumb- and Finger-Sucking, Etiology, Associated Movements and Habits, Physical Ill Effects, Psychologic Ill Effects, Treatment. Tongue-Sucking. Nail-Biting. Nose-Picking. Lip-Sucking and Biting. Head-Banging. Hyperactivity. Day-Dreaming, Imaginary Playmates. Habit Spasms. Convulsions.

THUMB- AND FINGER-SUCKING

The habit of thumb-sucking is established during the early months of life. Infants become thumb-suckers through accidentally finding the mouth in the course of the random movements which young infants make. The habit occasionally arises from the discomfort of hunger or over-feeding. Children who persist in sucking their thumbs after the fourth month of life may be looked upon as habitual thumb-suckers and require treatment. During the latter half of the first year children frequently keep their fingers or fists in the mouth, presumably as a response to the discomfort of teething, and thumb-sucking occasionally starts at this age. Providing the child with a teething ring during this period is helpful as a prophylactic measure.

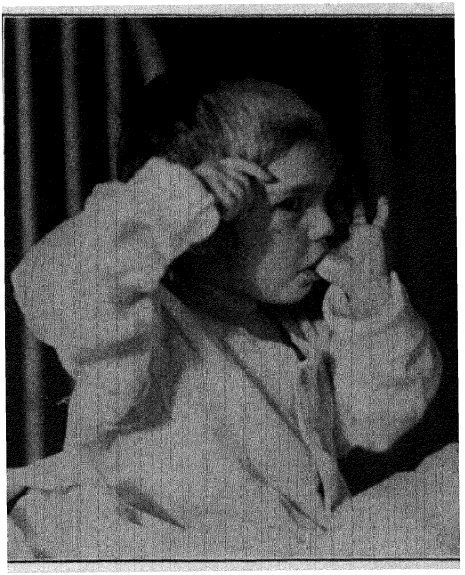

FIG. 27.—THUMB-SUCKER SHOWING ASSOCIATED MOVEMENTS.

According to Levy the primary factor causing finger-sucking is inadequate sucking activity during feeding time. He found that the percentage of finger-suckers was highest in a group of infants fed every 4 hours, less in a group fed every 3 hours and least in a group fed irregularly.

Gesell and Ilg conclude, from their own observations, that inadequate sucking is only a minor factor in the pathogenesis of thumb-sucking and this is also our impression. The sucking needs of infants vary widely. There are some who are satisfied with the amount of sucking incidental to feeding while others seem to require much more. Some infants are content to relinquish the bottle at 6 or 7 months while others, equally well and happy, are unwilling to give up the bottle or breast until they are several months older.

Accessory movements with the free hand frequently accompany thumb-sucking. The most common are ear-pulling, lip-stroking, hair-pulling, head-patting and keeping the hand or bed sheet over the eyes. Not infrequently the accessory movements persist after the thumb-sucking has ceased.

Activities similar to thumb-sucking are tongue-sucking, which is seen occasionally when infants are prevented from sucking the thumb; rubbing materials on the lips and stroking the bed clothes. Many infants suck the thumb only when a diaper, blanket or favorite piece of cloth is at hand. An infant, recently observed, had a piece of silk which he habitually placed in his mouth. When the piece of silk was chewed up, the habit ceased.

FIG. 28.—SPONTANEOUS CORRECTION OF DISPLACEMENT OF TEETH AFTER CESSATION OF THUMB-SUCKING.

A boy, 4½ years old, had sucked the thumb since early infancy. His upper central incisors projected prominently. Following the taking of the impression shown in *A*, he promptly stopped sucking the thumb. The cast *B*, taken three months after cessation of the habit, shows the spontaneous correction of the displaced teeth (From the collection of Dr. J. H. Sillman).

If improperly treated, thumb-sucking may persist into adult life but ordinarily the symptom disappears spontaneously by 5 or 6 years, sometimes earlier. Adults who have been finger-suckers in childhood, are occasionally observed with the finger in the mouth when thoughtful.

After the first 9 or 10 months of life thumb-sucking is indulged in when the child is tired, sleepy, bored or sulky. The habit, therefore, if practiced excessively, may be looked upon as an indication of an unsatisfactory psychologic environment. There may be overfatigue, too little entertainment with toys or playing, inadequate outlets for the child's maturing needs for self-expression, improper parental attitudes.

Physical Ill Effects.—Thumb-sucking has been blamed for deforming the teeth, the palate, and the thumb; it is said to lead to air swallowing, to the introduction of bacteria and to stomatitis. Thumb-sucking has no effect on palatal configuration. Occasionally it displaces the teeth, but teeth displaced in this way are readily replaced or resume their normal positions spontaneously when the habit is discontinued, since the jaws continue to grow normally. The importance of hereditary factors in determining the growth of the teeth was brought out in the study of Goldberg on uniovular twins. He concluded that dental irregularities are strongly inherited and are not merely the result of thumb-sucking or other

mouth-disturbing habits. Since the habit ordinarily disappears by the sixth year, irregularity of the permanent teeth is rare. The thumb is frequently deformed but this is not permanent. There is no evidence to indicate that thumb-suckers are more susceptible than other children to gastro-intestinal disturbances, infection or stomatitis.

Psychologic Ill Effects.—According to some observers thumb-sucking is related to masturbation and is an expression of infantile sexuality. It is true that both thumb-sucking and masturbation are habitual manipulations of the body which are pleasurable. To look upon thumb-sucking as masturbation with its lay implications is, however, unjustified and has led to much mental anguish on the part of the parents. There are no data to show that thumb-suckers masturbate in later childhood more often than other children.

The persistence of sucking habits beyond the first year is an infantile expression and represents a developmental delay. While sucking the thumb the infant is often unresponsive to toys and other objects upon which children are normally trained. Thumb-sucking is a useless activity. During a period of rapid motor and mental growth a considerable proportion of physical and mental energy is deflected into a channel from which the child learns nothing.

The attitude of the parents or the community (schoolmates, family friends, teachers) leads the thumb-sucker to learn quickly that his habit is undesirable or even "bad." He therefore practices it in private, thereby developing an undesirable secretiveness. The child's belief that he is doing something wrong may lead to a feeling of inferiority and a sense of guilt.

Treatment.—The parental attitude toward the habit should be examined and discussed. Censure, shaming and nagging should be avoided. Some parents are concerned about the relation of thumb-sucking to masturbation and they should be reassured in this matter. Mechanical devices are to be discouraged. They are not only useless but may be harmful in that they interfere with motor development and direct the child's attention to the symptom and may make him resistant to treatment. Furthermore the child may substitute a less pleasant habit such as tongue-sucking. The application of bitter substances or adhesive tape to the thumb is ineffective. A display of emotion by the parent may lead the child to use this habit as a means of getting attention or as a spite mechanism.

In young infants who suck the fingers the duration of sucking time incidental to feeding should be investigated. The modern tendency toward concentrated feedings and long intervals between feedings has cut down the amount of sucking time permitted to infants. Levy has suggested diluting the food of vigorous suckers to afford a longer sucking time. It seems, however, unjustifiable to dilute the food solely to satisfy the sucking impulse when this can be done adequately with a dry nipple. This is a harmless procedure and the nipple can be removed at 6 to 8 months without fear of the child's reverting to the thumb. After 6 months of age thumb-suckers will rarely accept the dry nipple and other treatment must be used.

The psychologic environment of the infant should be investigated. The method of feeding should be reviewed; infants should be held in the mother's or nurse's arms when fed and not placed on their backs with the bottle presented

to them at arm's length. The mother should be instructed in the proper way to carry the infant. It may be advisable to play with him more actively or for a longer time. If mechanical restraints and emotional scenes are avoided and substitution therapy used, during the first 2 years, most thumb-suckers will be greatly benefited and the habit will not be severe.

After infancy, thumb-sucking which is practiced only before going to sleep may be disregarded. It is a benign activity and attempts at correction are generally more harmful than the habit itself. If, however, it is frequently indulged in during the waking hours it means that the child is over-fatigued, bored, or unhappy and hence an investigation of unsuitable factors in the environment should be undertaken and corrective measures attempted. Overfatigue should be avoided. The child should have ample play outlets, an adequate amount of self-expression, avoidance of overcriticism, overcorrection, overauthority, indifference, etc. The parents should be warned against shaming, nagging and coercive methods.

By 5 years of age most children are capable of understanding the disadvantages of thumb-sucking. They may be told that the habit is infantile and that being grown-up implies being able to conquer the habit. Responsibility in other fields sometimes increases the feeling of assurance that this habit can be stopped. At times a direct appeal to the child's will-power may be made and a simple chart constructed to show objectively how improvement is taking place day by day. Some children are impressed by an appeal to their vanity and stop this unpleasant habit almost at once. If a reminder is needed, the child may apply a bitter substance to the thumb.

TONGUE-SUCKING

Tongue-sucking is relatively uncommon. It is seen in some infants who have been prevented from sucking the fingers by mechanical restraints, in Mongolian idiots and cretins, presumably because of the macroglossia, and occasionally in otherwise healthy infants. The tongue may be inserted into the cheek and moved about, it may be rolled up and moved up and down against the palate, or it may be moved backwards and forwards between the lips, particularly in Mongolian idiots and cretins. It is often accompanied by a loud sucking sound and infants seem to derive great satisfaction from this practice. The habit is harmless and usually disappears spontaneously during the second year of life although it occasionally persists for a longer time.

Tongue-sucking in a finger-sucker who has been restrained may be cured, if the infant is seen early enough, by removing mechanical restraints and offering a pacifier. Later lollipops may be used and efforts made to distract the child and amuse him with toys.

NAIL-BITING

Nail-biting is one of the most frequently observed undesirable habits in childhood and adult life. It usually begins in the fourth year of life, occasionally

earlier or later. Ordinarily several members of the family are nail-biters and the child acquires the habit through imitation. It is most commonly seen in tense, excitable children in contrast to thumb-sucking which is more likely to occur in children who are outwardly calm and placid. The habit is apt to be practiced in situations associated with repressed excitement and secretly if the child has been made to realize that the habit is undesirable.

Nail-biting is occasionally associated with biting of the toe nails and with picking at the nails with the fingers. Kanner finds that biting of the toe nails occurs almost exclusively in girls and this has also been our experience.

The treatment of nail-biting is ordinarily unsatisfactory. Punishments, scolding and restraints are of no value and may, as in the treatment of thumb-sucking, lead to other difficulties.

Since nail-biting, like thumb-sucking, is more likely to be practiced where the psychologic environment is unsatisfactory attempts should be made to relieve existing tensions in the home. Sometimes the child may be urged to save one nail, meanwhile biting the others if necessary. When the one nail is long, that may be sufficient incentive for the child to stop biting the nails entirely and to let all grow long. Light cotton mittens worn at night may act as a reminder that the nails are not to be bitten and pajamas which encase the feet may be used in the same way in toe-nail biting. The child may apply a bitter substance or adhesive tape on the nails for the same purpose. In all instances the child should understand that no restraint is implied in this treatment. Gum-chewing in exciting situations, as when listening to the radio or at the movies, will sometimes serve as a substitute for nail-biting. Rewards are of value in some instances but they should be used sparingly.

An appeal to the child's vanity often has an excellent therapeutic effect, particularly in older girls. The child may be taught to trim and file the nails and a manicure set purchased which the child owns and uses herself. Encouragement and praise are very important, as it takes weeks for the nails to grow and the child is apt to become impatient and discouraged.

NOSE-PICKING

Nose-picking is very common in young children. It is sometimes associated with the unpleasant habit of putting the contents of the nose into the mouth. An appeal to the child to do away with this unpleasant act has more effect here than in the case of most habits. The child usually has some appreciation of the undesirability of his behavior and desires to stop. Having a handkerchief always available and establishing the habit of its use are helpful.

LIP-SUCKING — LIP-BITING

Sucking of the lips is seen most often in young children. It is rare after 8 or 9 years. There is either actual sucking of the lips, especially the lower, or more frequently the child runs the tongue around the lips. The lip margins become soft and macerated and there is often a red area of irritation about the mouth.

FIG. 29.—LIP-SUCKING.

Lip-sucking in a 10-year-old girl before and after treatment. Interval between photographs, two weeks.

R. B., a 10-year-old girl, was brought to the Out-Patient Department of Bellevue Hospital because of tongue-sucking of 3 months' duration and excoriation of the lips. She had never been a thumb-sucker. She was shy, worried, easily embarrassed and bit and sucked her lips constantly during the visit to the clinic. The lips were red, somewhat swollen and macerated, the upper lip more so than the lower.

Home and school visits were made and minor adjustments suggested. The uselessness of the habit and its effect on her appearance were discussed. She was told that she could easily stop sucking her lips if she would try. Gum-chewing was suggested when she was likely to indulge in the habit as when listening to the radio, at the movies or in company with adults. No local treatment was given.

The habit stopped almost at once and 2 weeks after the first visit the lips were healed. When seen again after 3 months there had been no recurrence of the symptom.

Lip-biting, usually of the lower lip exists alone or may be associated with lip-sucking. The lip may be bitten so severely that it bleeds. The habit is practiced in moments of embarrassment or emotional distress and is often carried over into adult life. The individual is usually unconscious of the practice until it is called to his attention. Lip-biting often stops when the child is made conscious of what he is doing. Sometimes the application of cold cream or vaseline to lubricate dry and cracked lips will eliminate rough surfaces on which the child may bite.

HEAD-BANGING

Head-banging is not infrequent in infants and young children. The child may bang his head against the end or sides of the crib and against the mattress. The movements are rhythmic and may continue for hours, often while the child is only partially awake. The child rarely hurts himself.

The *etiology* is unknown. Although the condition is not uncommon in the mentally defective, it is seen in children who are normal mentally and who are well adjusted. It disappears spontaneously before the fourth year but it may persist during sleep somewhat longer.

Head-banging is not to be confused with the voluntary movements which take place during temper tantrums nor with the head nodding of spasmus nutans seen in children who are kept in dark places. The home should be investigated and the manner of handling the child looked into. Unsatisfactory conditions should be corrected.

HYPERACTIVITY

Etiology.—Hyperactivity is not uncommon in children. It begins at about 4 years of age, occasionally earlier, and continues until 10 years when it ordinarily disappears spontaneously. It is rare after 12 years. Although boys are, on the whole, more active than girls, excessive activity occurs with equal frequency in both sexes. Ordinal position, number of siblings and intelligence are without influence.

The most important etiologic factor is an unstable home. A large proportion of hyperactive children come from broken homes and from families who change their residence frequently so that the child has little opportunity to make permanent friends or to achieve a sense of belonging. Marital disharmony is common in the families of hyperactive children and the parents are often nervous, high-strung, unstable and rejecting toward the child. In many instances the father is unable to hold a job or adequately support the family.

Any condition which puts pressure on the child such as nagging, overcriticism, overcorrection, uncomplimentary comparison with siblings, may lead to hyperactivity. The child may be unable to live up to parental standards or may be overburdened with school work or extracurricular activities. In a certain proportion of cases, structural changes in the brain are present, as revealed by the encephalogram and electroencephalogram.

Symptomatology.—Hyperactive children seem to be constantly on the move, seeking new experiences, investigating new situations quickly and often with surprising thoroughness. They are unable to remain long at any particular task and there is a great deal of fidgeting and unnecessary movement, such as waving the arms about, jumping up and down and twisting the clothes. Certain habits such as nail-biting, plucking out the eyebrows, chewing on lips and fingers are common.

These children are eager for attention and resort to all sorts of devices to attract adults. They make unusual noises, interrupt conversation, act silly and clown a great deal. This unusual behavior is particularly noticeable at school where they fidget, wander about the classroom and annoy their schoolmates. Because of their inability to sit still and to concentrate they are frequently referred to the physician by the school.

Talkativeness is common. Speech is often rapid and indistinct and the voice is loud, high pitched and strident. Psychomotor regulation is poor and there is awkwardness, poor handwriting and poor handiwork. There is little interest in reading. Sleep is usually restless and disturbed.

Treatment depends on the etiology. Attempts should be made to adjust conditions in the home. The importance to the child of relative permanency of

residence should be emphasized. Pressure on the child for better school performance should be relieved and extracurricular duties reduced.

Guided activity and sensible planning of time are important and should include periods of rest and a regular sleeping routine in order to avoid chronic fatigue. The child should be given outlets for his excess energy, and his activity should be transformed into coordinated movements such as swimming, dancing, skating, etc.

Parents and teachers must be patient as hyperactivity is increased by nagging and scolding. These children usually do badly in formal schools and, when possible, should be placed in schools where they are permitted greater freedom and an opportunity to engage in more varied pursuits.

In general, drug therapy is of little value. Benzedrine has been used with success in some instances.

In extreme cases it may be advisable to place the child in another home or in a convalescent institution where he will be relieved of the strain imposed on him by undesirable parental attitudes and family disharmony. The child may find in his foster-parents real affection and understanding and the resulting sense of security which he acquires will do much to relieve overactive conduct. Rural homes are preferable since they permit greater opportunity to work off excess energy. Convalescent homes have the advantage of a regular regimen and an interesting general program. Correctional institutions are to be avoided since the restraints imposed on the child serve only to exaggerate his condition. Unfortunately the hypermotility often recurs when the children return to their own homes.

A high caloric diet is sometimes helpful. Most hyperactive children are thin and with increase in weight there is a tendency for the overactivity to diminish.

DAY-DREAMING

Day-dreaming, often referred to as brooding, wool-gathering, being in a study, reverie, building castles in the air, is a common activity in both children and adults. It is a continued fantasy which may be carried on for years. If not indulged in to excess it is a desirable activity, giving free exercise to the imagination and providing a simple outlet for childish bewilderment and disappointments. On the other hand it may consume so much of the child's time and energy as to interfere with his normal activities at home and in school.

The content of the day-dream varies with age. Between 3 and 10 years, the dreams center about the child's selfish desires. The young child dreams of having toys he wants or of going to the circus. During the prepubertal period between 10 and 14 years, the day-dreams refer mainly to group activities, such as getting on the school base-ball team, or being chosen leader of the group. At this time a disturbing fantasy not infrequently appears; the child imagines himself as not belonging to the family, as being an orphan, a foster child, the offspring of wealthy, royal or inferior parents. This usually occurs when the child feels that he is being unfairly treated at home and discriminated against. Day-dreaming during adolescence is discussed in Chapter XXIII.

Etiology.—Excessive day-dreaming is seen where the child is bored or lonely and where the household is unstimulating or otherwise unsatisfactory. Any child who is expected to spend hours alone in his room, to go to bed before he is tired or at an unreasonably early hour, to remain quietly by himself will usually fill the time with day-dreams. Single children are particularly prone to day-dream because of lack of companionship in the home. Day-dreaming at school occurs when the child is uninterested in his work. It is often seen in the superior child who is bored with school work which is too simple for him.

Management.—Day-dreaming requires treatment only when it is indulged in to a degree where it interferes with normal activity and when the dream becomes an end in itself, assuming more importance to the child than reality. Treatment consists of making reality more pleasant than the fantasy. Children who are lonely should be provided with companions. They should have ample opportunity to take part in conversation. An attempt should be made to correct parental attitudes which interfere with or restrict the child's freedom too much. Attention should be given to proper school placement.

Discussion with the child concerning the content of his day-dreams and then either helping him to appreciate their unreality or assisting him to translate them into reality is useful.

IMAGINARY PLAYMATES

Young children not infrequently have "imaginary playmates" who share all pleasures and sorrows with them. These companions can be described and talked to and they often embody qualities which the child would like to possess. They occupy space and can be hurt both emotionally and physically. They are treated in all instances with love and kindness, never with hatred or anger. Although so vivid to the child, upon questioning he admits the unreality of his companion.

The playmates usually appear during the preschool period but they may appear as late as 8 or 9 years. They are somewhat more frequent among girls than boys. They are apt to be older than the child and may be of the same or the other sex.

The resort to imaginary playmates is the response of a highly imaginative child to an environment in which there is lack of companionship, loneliness, unhappiness or frustration. The imaginary playmate is used as an escape from an existence which is dull or unpleasant. It is not uncommon to find one child in a family of apparently satisfactory sibling relationship who has an imaginary playmate. Size of family is without influence.

These children are of average or high intelligence and are usually highly imaginative in all fields. They often prefer the imaginary playmate to real companions and refuse to share him or relinquish him until they develop more absorbing interests. He may disappear when the child starts to school but occasionally he is retained until early adolescence.

To have an imaginary playmate is not abnormal. Indeed it may be looked upon as indicative of a high degree of imaginative power. The fancy should not be discouraged unless carried to an extreme in which case the remedy is the

substitution of actual people and events for the make-believe companion. The child's life should be made more interesting and friendships encouraged. The parents should seek out the need which the child feels and attempt to fulfill this need or compensate for it.

HABIT SPASM

Habit spasms or tics are abrupt, rapid involuntary movements of circumscribed groups of muscles which are not due to organic lesions. The movements are repeated frequently, are stereotyped and without apparent purpose. The face and neck are most frequently affected but almost any part of the body may be involved. There are wide differences in severity. In some instances there is simply eye-blinking or stretching of the neck while in others there are unsightly grimacing, jerking movements of the shoulders or convulsive movements of the entire trunk.

Etiology.—Tics are seen most commonly in children from 8 to 12 years, although they occur as early as 6 years and are not infrequent in adults. The condition usually disappears during early adolescence. Boys are affected somewhat more often than girls. Tics are seen in children of all mental levels. They are slightly more frequent in the dull normal than the superior and are rare below the moron level.

Emotional instability is the rule in children with tics. Restlessness, easy excitability and self-consciousness are encountered most frequently. Many of the children are sensitive, shy and readily embarrassed. Some are overambitious and overconscientious.

Tics often have their origin in local irritation. Thus eye-blinking may follow a conjunctivitis, neck-stretching may be related to a tight collar, a scratching movement may follow insect bites, etc. In these instances movements resulting from the irritation are repeated with great frequency and become habitual. They often continue after the irritation has been removed. Tics may also arise on the basis of an attitude of mind, as, for example, defiance expressing itself in a shrugging of the shoulders and turning of the head. Tics are also acquired in imitation of a tic in a parent, teacher or admired friend. Sometimes a gesture or mannerism is copied by the child and becomes habitual.

A tense strained atmosphere in the home is the most frequent factor leading to habit spasms. There may be parental incompatibility, sibling jealousy or less obvious difficulties. Sometimes there is misplacement in school, or difficulties with schoolmates.

Management.—The environment of the child should be investigated and unfavorable conditions corrected. School adjustment or a reduction of extracurricular work may be necessary. Learning how to rest and relax is of great value. The child should be removed from persons with habit spasm or peculiar mannerisms. Sources of local irritation should be eliminated. Some success in the treatment of tics has been achieved by having the child repeat the tic movements in front of a mirror. It is expected that in this way the movements will come under voluntary control. The child should be encouraged and his self-confidence bolstered.

Rhythmic exercises and dancing cause temporary cessation of the tic and help to stop the habit.

The parents should be assured that the spasm is not organic and can be cured if approached calmly and with patience. They should be warned against shaming the child or calling attention to his movements as this only increases their occurrence. Habit spasm cannot be cured by threats and punishment.

CONVULSIONS

Psychogenic convulsions are rare in children. They differ from the convulsions associated with organic disease in that the tongue is not bitten, sphincter control is preserved, the pupils react normally and there is seldom frothing at the mouth. The attacks occur only while the child is awake and frequently consciousness is not completely lost. Injuries are rare as a result of the fall. Other manifestations of hysteria are generally present. The child is usually not disturbed by the condition and sometimes even seems to enjoy it.

Treatment is directed toward the hysterical state of which the convulsion is one manifestation. The attacks may subside after a sudden shock or surprise. New interests and experiences may make the continuance of the symptom unnecessary.

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CHAPTER XXV

EATING DIFFICULTIES

Anorexia. Differential Diagnosis. Etiology, Physiologic, Parental Attitudes, Suggested Food Attitudes. Prophylaxis. Treatment. Anorexia in Adolescents. Voluntary Diet Reduction During Adolescence. Dawdling. Refusal to Chew. Insistence on Being Fed. Voracious Appetite. Vomiting, Etiology, School Vomiting, Treatment. Pica. Rumination. Aerophagia. Car Sickness and Sea Sickness.

ANOREXIA

Anorexia is one of the most frequent complaints for which children are brought to the pediatrician. The symptom is usually psychogenic but it must be distinguished from poor appetite associated with organic disease. In psychogenic anorexia the physical status of the child is usually good and fussiness about food is prominent. Certain foods are eaten well one day and refused the next. Milk may be taken from a glass but not from a cup. The appetite is often capricious and highly variable depending on the mood of the child, the person present with the child at mealtime, and the type of entertainment supplied. Where anorexia is due to organic disease, on the other hand, the symptom ordinarily appears fairly abruptly and is general, relating to all the food in the diet. There is usually failure to gain or actually a loss of weight. Apathy and easy fatigability are frequently associated symptoms.

Though the differential diagnosis between psychogenic anorexia and that owing to physical causes is usually simple, difficulties are occasionally encountered, particularly in older children.

Specific food dislikes are sometimes associated with food sensitivity (*e.g.*, dislike of egg in egg-sensitive children) and in such instances the food dislikes should be respected and substitutes offered.

In many instances there is actually no loss of appetite but a refusal to eat foods prescribed by the parent. The child may eat with relish foods which he likes but refuse to eat foods which the parents feel are good for him. Favorites with most children are bread and butter, meat and milk. A food commonly rejected is cereal.

Though children with anorexia are ordinarily thin it is by no means unusual to hear this complaint where they are actually obese. Occasionally the anorexia may be severe and accompanied by failure to gain for many months or even loss of weight.

Etiology.—Psychogenic anorexia is observed in all social groups even the poorest, though it is more common among the economically better situated. It

may arise solely as a result of improper management of the eating situation, or it may be part of a generally improper attitude of parent toward child.

Physiologic Anorexia.—Anorexia usually begins toward the end of the first year or in the second year and continues into the early school years. It may, however, appear as early as the eighth or ninth month of life. Its onset coincides with the beginning of "physiologic anorexia." During the first 9 months of life, physical growth is rapid and the need for food correspondingly large. Toward the end of the first year the rate of physical growth falls off rapidly, continuing at a fairly low level until about the sixth year at which time an increase in the growth rate begins. During the period of relatively slow growth the need for food is not as great as it is early in life and the appetite is consequently reduced. Parents, unacquainted with the normal growth cycle, are frequently disturbed by the child's diminishing interest in food and by the slower weight gain, and hence proceed to urge the child to eat. The parental urgings serve to stimulate the child's resistance to authority which is emerging at this age period as part of the maturation process, and in this way a psychologic factor is added to the physiologic. Furthermore, the child, becoming aware of the parental interest in his diet, may use the eating situation as a means of gaining attention or as a spite mechanism.

Parental Oversolicitude.—The more or less natural train of events just described may become exaggerated under a number of circumstances. One of the most potent causes of anorexia is parental oversolicitude regarding the health of the child. In many parents the normal concern for the child is exaggerated and the emphasis placed on nutrition since the early years of this century has served to focus parental interest on this subject. Parental anxiety has been reinforced by the popular use of tables of growth and by a widespread belief that rapid growth is optimal growth. Physicians and social agencies are in no small way responsible for this viewpoint. Parents of the oversolicitous type may go to extremes to induce the child to eat, using bribes, threats, forced-feedings, punishments, etc. Anoxeria nervosa may have its origin in parental anxiety about the lack of appetite following an ordinary respiratory infection.

Parental Overprotection.—Another factor leading to feeding difficulties in children is an overprotective attitude on the part of the parents, *i.e.*, the parent continues to do things for the child which he is developmentally ready to do for himself. Overprotected children are retarded in the use of the implements for eating as well as in other manifestations of self-dependence. Such children are often infantile in their behavior not only toward feeding but toward other training procedures, particularly self-dressing and self-washing. Feeding difficulties apt to occur in the overprotected child in addition to anorexia are refusal to give up the bottle, insistence on pureed foods, refusal to chew, refusal to swallow solid food and insistence upon being fed.

Parental Indifference or Rejection.—The most severe instances of anorexia are seen in the offspring of parents who are emotionally indifferent or actually rejecting toward the child. Such parents, because of a sense of duty or a feeling of guilt regarding their own attitude, are often oversolicitous. The child, lacking the affectionate atmosphere necessary for normal personality development, is

restive and seeks compensation for his unsatisfactory environment by refusal to eat. In rejected children the desire for attention is abnormally developed and feelings of revenge are prominent. In some instances the child's refusal to eat represents a revolt against an overauthoritative parent. Dawdling about dressing, washing, eating and generally in response to commands, is common in the offspring of domineering parents.

Suggested Food Attitudes.—Though the mother is responsible for most feeding difficulties, suggested food attitudes ordinarily come from the father or older children. These suggestions are frequently made unconsciously and the parent is usually unaware that he is at fault. The most common food attitude suggested is dislike of a particular food. Vomiting, postprandial sense of pressure or abdominal pain may also be suggested.

Occasional causes of feeding difficulties are anxiety on the part of the child because of parental incompatibility or jealousy of a younger child. Undue excitement before mealtime is another factor.

Prophylaxis.—Anorexia can be easily prevented if proper measures are taken during the first year of life. The physician, seeing the child during early infancy and observing his relation to the parents and often to the grandparents, can usually evaluate the parental attitudes and introduce corrective measures before any effect on the child is apparent. This attitude on the part of the physician, if applied tactfully and early, particularly before difficulties arise, is gratefully accepted by most parents. Special emphasis should be placed on the parental attitude toward the eating situation since it is here that difficulties frequently arise. Before prescribing a feeding schedule for a young infant some estimate of the maternal psychologic makeup should be made. For the easy-going mother, who may be expected to be lax in following directions, the importance of a rigid schedule should be stressed. For the meticulous, overanxious mother, on the other hand, a strict schedule should be avoided and some leeway as to the hours of feeding and even the amounts to be given at each feeding may be safely advised. Every attempt should be made to minimize the importance of diet as well as other aspects of the child's training.

During infancy parent-child conflicts regarding foods should be avoided. With the introduction of each new food, the mother should be advised that children differ in their food likes and dislikes. If a food is refused, its preparation should be investigated; if this is found satisfactory and hence not the cause of the child's dislike, the food should be withdrawn and a substitute offered. The particular food may be reintroduced at a later date or in a different form. The parent should be told that no food, except milk, is essential for the child and substitutes can always be found. It should be repeatedly emphasized that even a young infant is entitled to some food likes and dislikes. In recommending new foods the amounts to be given should be made flexible.

The proper use of height and weight tables should be stressed. The idea that the weights and heights of children fall into a zone of normality rather than along a line may be readily imparted to most parents. It should be pointed out that there is no evidence to indicate that children whose weights are above average are healthier than children below average. The vitamin needs of children

are limited and large supplements are probably of no value and may even be harmful.

Proper training of the child in the use of eating utensils so that he can eat unaided should be stressed. Infants can be weaned from the bottle at 10 to 12 months and should be able to handle a spoon at about 14 months.

The feeding time from early infancy should be regular but not too rigid and the surroundings pleasant and free from distractions such as toys. The food should be well prepared and served and the child should be given a choice of foods. Small portions should be served and the child should not always be required to eat everything put before him. Voicing of food dislikes by elders should be avoided.

Treatment.—Before instituting treatment three important points require clarification: First, does the child really have poor appetite or does he simply refuse foods which the mother thinks are good for him, at the same time eating well those foods which he likes? Secondly, is the feeding problem an isolated one or does it result from a generally unfavorable psychologic environment? And thirdly, if the psychologic environment is improper what is wrong with it? Is the mother overanxious, overprotective, overauthoritative or too lax, overcritical, overaffectionate or rejecting, etc.? Is there jealousy among the children, parental preferences for one child or the other, parental incompatibility? Where severe anorexia is present, parental rejection should be suspected and treatment directed toward this situation.

Having evaluated the psychologic environment the physician should next make a survey of the general behavior of the child. It is important to keep in mind that severe feeding difficulties are much less likely to arise in happy children than in those who are poorly adjusted. Other difficulties which the child may have should be investigated such as sleeping disturbances, sucking habits, difficulties with bowel- or bladder-training. One should know whether the child is excessively shy or bold, negativistic, fearful, anxious, etc.

In mild cases of anorexia, disregard of the symptom together with an explanation to the parent of the limited dietary needs of the child during the preschool period is often sufficient for cure. The child should receive attention and affection when he behaves, not when he misbehaves.

Miniature meals are sometimes sufficient to change the child's attitude from one of distaste to one of desire for food. This is more especially so when food has been forced or too large helpings have been served. A choice of foods, or the elimination of foods which are customarily refused, may increase the appetite.

Excitement and vigorous exercise should be avoided before meals. The child should have sufficient warning before mealtime so that he can complete what he is doing and hence will not resent eating because it is taking him away from incompleted play. Also the desire to get back to his play will not be so great if it has not been left unfinished.

Having the child eat with other children is often helpful. It is of value also to have a young child eat with the rest of the family on special occasions.

A valuable aid in the treatment of feeding difficulties is the book by Aldrich and Aldrich "Feeding Our Old-Fashioned Children." This serves not only to

reinforce the pediatrician's advice but also informs the mother that a great many other people's children have the same ailment, a reassuring piece of knowledge for most parents.

Anorexia in Adolescents.—A severe form of psychogenic anorexia is occasionally observed during adolescence. The most striking features are the rapid weight loss, emaciation and anorexia which amounts to an actual aversion to food. There may be dryness of the skin and hair, brittleness of the nails, intolerance to cold and an appearance of premature aging. Often there is amenorrhea or irregular menses. There is some weakness but the strength may be surprisingly well maintained. The basal metabolic rate is lowered, the pulse is slow and the blood pressure reduced. The temperature is subnormal. The blood sugar curves are often abnormal. They are usually flat, but diabetic curves are not infrequently seen.

The condition is much more common in females than in males. It is usually precipitated, in an unstable individual, by an emotional shock. The prognosis is grave and a fatal outcome is to be expected where more than half the body weight is lost. In addition to dietary treatment, which should be forced if necessary, psychotherapy is indicated.

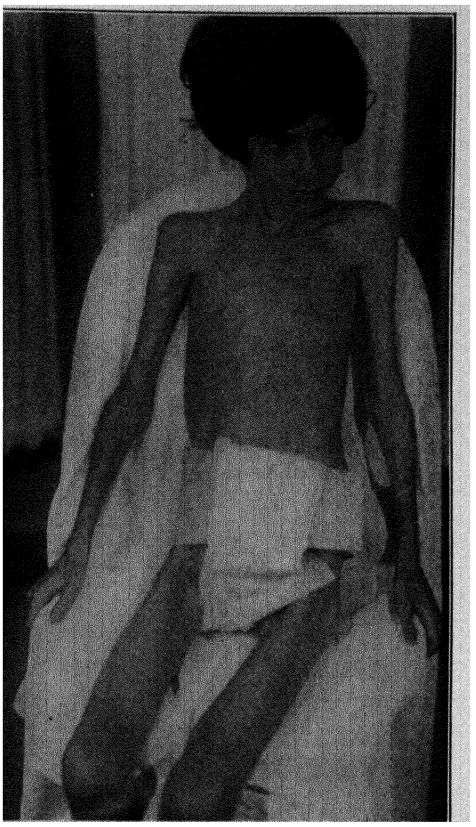


FIG. 30.—ANOREXIA NERVOSA.

Patient, a girl, 13 years of age. Refusal to eat started at about 10 years and persisted until the child died at 13½ years. The mother died shortly after the birth of the child and she was abandoned by her father when she was 5 years old. Her two sisters had been adopted and were quite happy. She had been in several foster homes but she was always dissatisfied and resentful. She ran away twice. At about 10 years of age she began to refuse food. She weighed 55 pounds (20 kg.) at that time. Refusal of food was persistent and the child resisted all medical and psychic therapy. In the three years preceding her death she was in four hospitals. At the time of death, which occurred during an attack of chicken-pox two months after the photograph was taken, the weight was 30 pounds (13.6 kg.) and the height 50 inches (1250 cm.).

Dawdling.—Dawdling over food, as well as dawdling in general, is the child's negativistic reaction to parental, sibling or nurse overauthority. Whenever this symptom is encountered, the child's attitude toward dressing, his response to requests, as well as the parental attitude should be investigated and the parents instructed accordingly. Dawdlers should eat alone and, after an adequate time has been allowed for eating, the food should be removed without comment. Frequently children toy with their food when nothing more interesting is anticipated or

when there is a disagreeable task to be performed. This type of behavior must be distinguished from slow eating which is usually due to poor training but may have some other basis not completely understood. In some children this can be corrected by an explanation of the social advantages of more rapid eating but it occasionally persists throughout life.

Refusal to Chew.—Some children either refuse to chew or chew weakly and expectorate solid particles. The food may be retained in the mouth for long periods. Frequently it is the outcome of too long straining of foods. This is an infantile reaction and occurs most often in the overprotected child. In such instances the parent-child relations should be discussed with the parent. Solid foods which the child is known to enjoy should be offered and he should have the opportunity of eating with children of his own age, *e.g.*, at a nursery school.

Insistence on being fed is another infantile manifestation and should be treated like refusal to chew.

Voracious appetite is not uncommon among the feeble-minded, especially the low-grade, and is occasionally observed in mentally normal children. It may be the result of imitation but it may also be a manifestation of a deep-seated disturbance of behavior.

Excessive appetite sometimes occurs in children who are emotionally insecure and presumably is a means of overcoming frustration. Both Bruch and Meloan found considerable maladjustment in the homes of their patients with parental incompatibility, sibling rivalry and often economic insecurity. In many instances parents emphasize the importance of food by offering it as a reward for good behavior or as a sign of affection. The child then demands food as assurance of parental respect and affection.

VOMITING

Etiology.—Since vomiting may be a manifestation of organic disease, a careful investigation should be made in every child with this symptom. Allergy is a factor, occasionally, and in such instances the vomiting is accompanied by refusal of the offending food. Egg is the food most commonly implicated. The identification of a food with a disagreeable object or situation may lead to vomiting. It is occasionally utilized as an attention-getting or spite mechanism. It may be suggested by a parent or sibling. It is common after the forced feeding of children with anorexia.

Vomiting is not infrequent among infants. Of the numerous conditions which may lead to vomiting during this age period by far the most common is the mechanical pressure of swallowed air. This is best treated by regulation of the size and shape of the nipple, by adjusting the speed of delivery from the nipple and by altering the infant's position after feeding.

Vomiting is much less frequent after the second year of life but there are children who vomit readily when exposed to various situations, *e.g.*, when urged to eat, when excited, when riding in cars or on ships, at the onset of infection, etc. This type of response unquestionably has a psychogenic component, but probably, as in the case of enuresis and stuttering, there is also a neurogenic

basis, since the tendency to vomit is often familial and may persist throughout life. Cyclic vomiting is also influenced by psychic factors and attacks are frequently precipitated by birthday parties, holidays and other exciting events.

Psychogenic vomiting is not uncommon in children of school age. It usually occurs on the way to school but it may take place at home before breakfast, or at school. The child ordinarily vomits on schools days only although this may happen on the way to Sunday School or to a music lesson. The symptom is usually associated with a dislike for school. In some instances, however, the child may actually like school but is worried about it. He may be afraid that he will not reach school on time and so hurry through his breakfast, or he may be ashamed of his performance at school in a particular subject or before a favorite teacher. He may, for example, be very fond of his teachers and he may do well in all his work except arithmetic which a favorite teacher teaches; or he may be ashamed of his failure to achieve an honor status. The vomiting may result from his worry and eagerness to get to school or from a conscious or subconscious effort to stay away from the class, or it may represent the child's excuse for an inadequate school performance.

Treatment.—School vomiting can be eliminated by relieving the child's worry over the school situation. He should be awakened early enough so that he will have sufficient time to eat an unhurried breakfast without being agitated about being on time for school. An attempt should be made to adjust the underlying mechanism. If the work at school has been unsatisfactory, this should be investigated. In some instances it may be necessary to put the child into another class where the required work is within his scope. Frequently the school work will be found to be adequate but not as good as an ambitious parent or pupil desires. In such instances it may be possible, through frank discussion with the parents, to relieve pressure on the child and this in itself often leads to an improvement in school performance. Where a timid child is afraid of his teacher it may be possible to alter this response by having the child meet his teacher socially. An explanation to the child of the reason for his vomiting and encouragement to discontinue this type of response often have a very favorable effect on older children.

Psychogenic vomiting is observed in some children whenever they are faced with a situation which appears to them difficult or distressing. It may take place before parties or performances where the child is afraid he will not make a good impression or during the first few days in a new environment as a camp or boarding school. It may be the result of a conscious desire to avoid the unpleasantly anticipated event or it may be unconscious and dependent on the emotional strain which the child is undergoing.

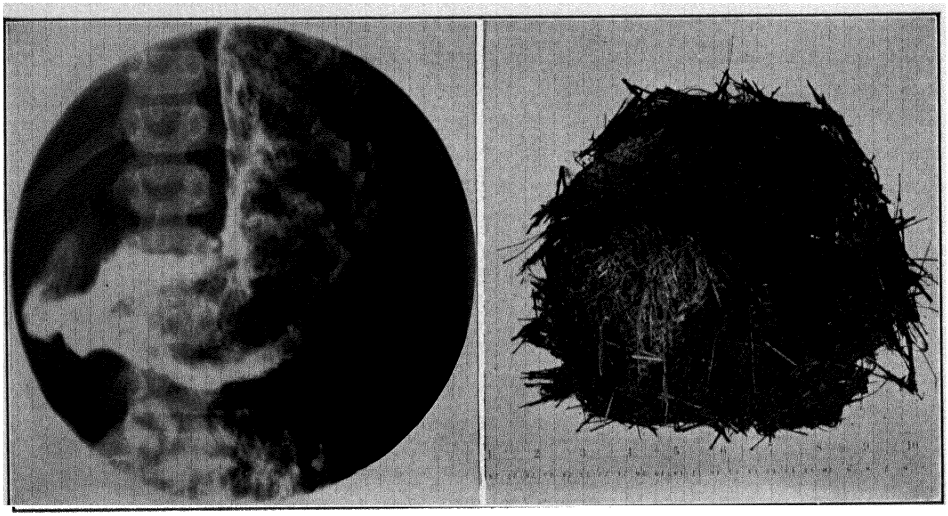
For successful treatment the reason for the child's fear must be ascertained and eliminated or the child so adjusted that he feels secure in that situation.

PICA OR PERVERTED APPETITE

Pica usually develops in the second or third year of life. The child may eat paint, soot, chalk, dirt, plaster or paper or may chew bed linen, wool or his clothes. Indeed, there are few things which such children will not eat.

Ordinarily the symptom is innocuous but it may give rise to serious disturbances. The eating of paint may lead to lead poisoning. Hair ball tumors have been known to cause intestinal obstruction. Since the symptom usually occurs in neglected children the patients are frequently thin and pale and suffer from gastro-intestinal disturbances of various sorts.

Pica occurs most frequently in low-grade mentally defective children and may persist throughout life. It is seen, however, in children with normal mentality. It results from inadequate supervision and can usually be cured by proper training, if necessary away from home. Normal children after the ninth or tenth month put objects into the mouth indiscriminately. Persistence of the symptom in children of normal intelligence after the fourth year of life is of grave prognostic significance and is usually associated with other deep-seated behavior disturbances.



A B

FIG. 31.—PICA IN AN ELEVEN-YEAR-OLD MENTALLY DEFECTIVE GIRL, I.Q. 43.

a, gastric x-ray showing lumen occupied by large, irregular mass; *b*, tumor removed from the stomach, consisting of hairbrush bristles, broom straws and small pieces of wood. Tumor weighed 8 ounces (240 grams). (From Pediatric Service, Kings County Hospital, Brooklyn, courtesy of Dr. George Brockway).

The *etiology* is obscure. In some instances the practice may be associated with dietary deficiency but this is hardly the usual cause in humans.

Pica has been observed in many animals. Sheep, fed on maize-endosperm and very little hay, a diet which is deficient in certain vitamins and salts, eat the wool from each other's backs. This habit may also result from external parasites

and may be severe enough to cause death from the formation of wool-balls in the stomach. Feather-eating takes place in some caged birds and in poultry despite good diets. It has been attributed to boredom and to the "vagaries of the female sex" since it is largely confined to hens.

Cattle, raised on a diet deficient in phosphorus, eat bones. Where this condition, known as osteophagy, is severe, even bones to which shreds of decaying flesh are clinging may be taken. It is of interest that, though osteophagy usually ceases after adequate phosphorus has been supplied, the cattle may continue to eat bones as a habit. Infantophagy has been observed in rats receiving an inadequate diet. Occasionally sows indulge in this practice and such sows are usually disposed of, since, once the offense has been committed, it is apt to be repeated.

Pica of nervous origin is seen in the rabic dog that rejects ordinary food but often gnaws at or consumes alien material. A temporary perversion of appetite may be produced in animals by certain drugs, notably apomorphine.

Treatment.—Pica disappears promptly in most children of normal intelligence when proper food is given and adequate training and supervision established. If proper management is not possible at home it may be necessary to change the child's environment. Mechanical restraints are useless and harmful. In idiots strict supervision of what goes into the mouth is the only treatment as these individuals have little ability to discriminate for themselves.

When the symptoms persist in a normal child despite treatment or when pica is present in later childhood intensive study of the personality of the child, the home environment, the presence of other grave behavior disturbances and history of mental disorders in other members of the family should be undertaken. Perverted appetite, especially when limited to coprophagia (the eating of feces), is found in schizophrenic patients and others with serious mental disorders.

RUMINATION OR MERYCISM

In rumination ingested food is returned into the mouth and allowed to run out following a series of visible, muscular acts. It differs from regurgitation in which the food runs out of the infant's mouth without previous effort. In infants the material ruminated is liquid and is not reswallowed; in children and adults the solid food is frequently masticated a second time.

Rumination is rare in infancy. It usually begins during the early months of life and, in nearly all instances, there is a history of repeated vomiting before the full development of the symptom. The act of rumination generally begins a few minutes after the ingestion of food and it continues during the entire interval between feedings. In some instances the onset of the act may be delayed for several hours after feeding. It may be preceded by sucking the fingers or the rung of the crib. The clinical picture is characteristic. The head is thrown back and the tongue and lower jaw brought forward. The infant makes chewing movements accompanied by a gurgling sound. Food brought up runs out of the mouth without force. Ruminators are markedly underweight.

Mechanical restraints, such as tying up the lower jaw, restraining the hands so that the fingers cannot be sucked, laying the infant on the abdomen are of

some value. Sedatives are of little use. The most suitable type of food is thick cereal and banana. At the same time a suitable psychologic environment should be provided.

AEROPHAGIA

By aerophagia is meant the swallowing of air. The air may enter the stomach or remain in the esophagus giving sensations of pressure. It may be eructed (eructatio nervosa) explosively with a loud sound; or it may pass through the pylorus into the intestines and be passed by rectum. A certain amount of air is normally swallowed during eating. It becomes abnormal when air is swallowed or gulped in large amounts without relation to food or drink. It is sometimes practiced by individuals with organic disease in an attempt to obtain relief and may become so prominent as to obscure the organic lesion. Swallowing of large amounts of air may lead to gastric distention with dyspnea, severe pain and vomiting. The expulsion of air may become very difficult necessitating the passage of a stomach tube.

Eructatio nervosa is more common in females than in males. The noisy eructations vary greatly in frequency and intensity. They may occur in paroxysms with long quiescent periods. In some instances the symptom may be inhibited, in others it is involuntary.

Aerophagia and eructatio nervosa are acquired in children through imitation of an adult. If attention is paid to the habit it may become established and it may be used not only as an attention-getting mechanism but more frequently as a means of annoying the parents.

In mild cases of eructatio nervosa much can be accomplished by an explanation of the mechanism of the act and an admonition to exert self-control. Temporary relief may be obtained by having the patient hold a cork between the teeth or by simply having the patient breathe with the mouth open, thus preventing him from swallowing air. In acute attacks of gastric distension passage of a stomach tube may be necessary. The psychologic treatment follows that generally used in the treatment of undesirable habits, *i.e.*, the removal of the need for attention or revenge and the substitution of a more acceptable form of behavior.

CAR SICKNESS AND SEA SICKNESS

Car sickness, by which is meant nausea with or without vomiting due to riding in automobiles, street-cars or other vehicles, is common in children. It is closely related to sea sickness. It usually makes its appearance during the second or third year of life but, contrary to general opinion, is not infrequent in infants. The apparent rarity may be due to the fact that young infants are generally kept lying down in which position symptoms are less apt to occur. It also occurs among domestic animals, notably dogs, cats and horses.

Nausea is a normal response to violent oscillating movements. In the child with the car-sick diathesis, the threshold is lowered and nausea appears in response to minimal movement. The tendency to this condition is increased by

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Nausea is a normal response to violent oscillating movements. In the child with the car-sick diathesis, the threshold is lowered and nausea appears in response to minimal movement. The tendency to this condition is increased by

excitement, fear, apprehension, agitation, irritation, physical illness, a stuffy atmosphere, offensive odor, the sight of vomiting. There may or may not be vomiting. Some children with this ailment have great difficulty in vomiting and retch violently while others vomit readily.

The frequency of attacks varies widely, some children developing symptoms whenever exposed while others suffer only occasionally. There is no definite relation to meals. The condition is usually hereditary, occurring in several members of the same family. It is probably not primarily psychogenic, but, as in the case of enuresis and speech defects, the clinical picture is readily influenced by psychic factors.

Treatment.—The condition usually persists throughout life but it tends to improve as the child grows older. If treated calmly, without excessive solicitude or comment, it is usually mild. Training is useful and, in most instances, the disappearance of car sickness as the child grows older is probably attributable in part to this factor, just as the seaman develops a relative immunity to sea sickness. For training purposes, the child should be taken on rides of gradually lengthening duration. This not only permits gradual adjustment to the movements of moving vehicles but the child's success, when taken on short rides, serves to relieve apprehension and to bolster self-confidence. Drugs such as bromides and phenobarbital are valuable aids in treatment. They seem to raise the nausea threshold and hence are beneficial in the same way as training procedures. Conn has found the play-interview a useful method of treatment. Allowing the child to play with dolls in toy street-cars and automobiles helps him to express his feelings and thoughts in an impersonal way and makes him aware of the fact that he has contributed to his own discomfort.

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Voracious Appetite

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CHAPTER XXVI

DIFFICULTIES OF DEFECATION

Constipation, Etiology, Treatment. Encopresis.

CONSTIPATION

By constipation is meant infrequent or difficult evacuation of the feces. It may result from delay in the passage of food residues through the colon, the emptying of the rectum being normal; or there may be inadequate evacuation from the rectum (dyschesia). The small intestines are not implicated, obstruction there giving rise to diarrhea, not constipation.

Normally the colon makes very slow churning movements. The contents are conveyed to the pelvic colon by mass peristaltic movements which take place several times a day, sometimes but not always in response to the entrance of food or drink into the stomach (the gastro-colic reflex). The pelvic colon acts as a storehouse, the rectum remaining empty except just before defecation. As a result of one of the mass peristaltic waves fecal material enters the rectum and the call to defecation appears.

In the act of defecation strong contractions take place in the cecum and colon, the intra-abdominal pressure is raised by the contraction of the abdominal muscles and the diaphragm and the muscles of the anal canal are relaxed. Defecation is further aided by contraction of the levator ani which pulls the anal canal upward over the fecal mass and assists in clearing out the last traces of fecal material. Normally the distal part of the colon is cleared during defecation.

Motor activity of the colon is deficient when the food contains too little indigestible residue or when too little is formed on an adequate diet. Work done by the colon may be excessive when the feces are abnormally dry owing to intestinal spasm. Normal defecation depends on a conditioned reflex. Failure to respond to the call for defecation results in constipation.

The normal infant has from 1 to 3 stools a day. The stools tend to be less frequent and firmer in artificially fed than in breast-fed infants, possibly because of the higher calcium content of cow's milk. Not infrequently infants receiving cow's milk may go 48 hours or longer without passing a stool. Often on the third or fourth day without a stool there is some discomfort. Infrequent defecation in infancy is ordinarily not associated with constipation in later life unless the use of cathartics becomes habitual. An infant may be looked upon as being constipated when a stool is passed less often than once in 48 hours or when the stools are unusually firm and are passed with difficulty. In practice it is often difficult to convince mothers that so long an interval between

stools is physiologic and compromises must be made. Straining at stool is normal and does not require treatment unless there is bleeding.

Etiology.—Of the physical factors leading to infrequent defecation in infancy may be mentioned the low residue diet, the redundant colon and the high calcium content of cow's milk. "Spastic colon" and spasm or stricture at the internal anal sphincter are occasionally seen. The latter condition should be suspected where constipation, abdominal distention and discomfort are present, and can be readily recognized by rectal examination. It is often familial.

The most important psychologic factor is the maternal attitude. In the large majority of instances of so-called constipation in children the mother (or nurse) is herself constipated. Great emphasis is laid on the time of defecation and the character of the stool, and feelings of discomfort are transferred in the mind of the mother to the child. Cathartics, enemas and suppositories are frequently given and these serve to further exaggerate the irregularities. Particularly difficult to handle is the parent who takes enemas as a cleansing measure and who wants to do the same for her child.

In some instances overprotection is an etiologic factor. Many overprotected children refuse to swallow coarse foods, thereby reducing the bulk of intestinal residue which aids evacuation of the bowel.

Early in life the child senses the parental interest and concern regarding defecation and he may consciously abstain from stool in order to gain attention or to spite the parents. Furthermore as he grows older he, too, may become interested in the process and going to the toilet may become a much thought about and discussed ceremony. Constipation may be simply a phase of the general attitude of the negativistic child with refusal to go to the toilet being used like refusal to eat or to go to bed. Children who are unhappy at school or doing badly in their studies may refuse to have a bowel movement in the morning, in this way hoping to avoid attending school. At times the anxious child, in his eagerness to get to school on time, will not remain long enough on the toilet in the morning to have a movement.

There are occasional children who show an unusual interest in the toilet routine and who believe themselves unclean if they do not have a daily evacuation. They resort to laxatives, enemas and colonic irrigations which increase the tendency to constipation.

Symptoms.—Ordinarily infrequent defecation is unaccompanied by other disturbances. There may, however, be restlessness, a sense of discomfort, headache and general malaise. These symptoms are apt to occur in children who fail to answer the call to defecation and are probably due to distention of the rectum with fecal masses (dyschesia). That these symptoms are not dependent on the absorption of toxins is indicated by the fact that they can be induced by distention of the rectum with an inert substance like cotton, and by the fact that they disappear promptly after defecation.

Treatment.—After physical disturbances have been ruled out the mother should be instructed that it is not unusual for a healthy infant to have but 1 stool in 24 or 48 hours because of the low residue of an infant's diet. Efforts should be made to avoid agitation about the toilet situation and cathartics,

enemas and suppositories should be discontinued. For a young infant substitution of ordinary dark brown sugar for the added carbohydrate in the diet together with prune juice (30 to 60 cc. daily) is usually sufficient to increase stool frequency. Premature attempts at training should be avoided.

With older children constipation is best treated by a high residue diet and bran. Mineral oil or agar-agar may be used during the training period. The child should be expected to go to the toilet regularly at the same hour each day and this should be so arranged that there is no hurry or distraction. A maximum of 5 minutes on the toilet should be permitted. Defecation should be a habit with no special concern or interest and the parent should avoid inquiries regarding toilet success or character of the stools.

Tincture of belladonna, in subtolerance doses, is useful where the feces are small and dry.

When the constipation is primarily psychogenic the home and school situation should be investigated and proper adjustments made. In these instances the constipation itself usually requires little attention and, with the correction of the factors involved, the condition disappears. Where there is overprotection and the ingestion of a low residue diet, proper training procedures should be introduced.

In the rare case where there are ideas of uncleanliness a more thorough study of the child and the family should be undertaken in order to establish the reason for the attitude and to correct it if possible.

ENCOPRESIS

By encopresis is meant involuntary defecation after the second year of life which is not due to gross disease of the muscles or nerves. The condition is rare in girls and is seen most commonly in boys between the ages of 6 and 12 who are too preoccupied with play to take time for proper evacuation of the bowels. In some instances there are soft stools and moderate stool frequency, although fecal incontinence may occur with normal stools. Faulty training is a factor at times, particularly where there are difficulties in vesical training. Soiling may occur in young children following the birth of a second child and in such instances it is part of an infantile reversion. Idiots are incontinent but imbeciles and morons ordinarily have normal bowel control. Soiling sometimes occurs because the child is too embarrassed to ask for the toilet. Revenge or spite against the parents occasionally leads to soiling and the child may derive a real pleasure from seeing the embarrassment or disgust of the parent.

Unlike enuresis, with which it is sometimes associated, fecal incontinence occurs most frequently during the day and is an acquired condition, starting several years after bowel control has been established in the normal way. Soiling may occur in boys who are otherwise clean and careful about their appearance. Though they often insist that they are unable to control evacuation it is nevertheless not unusual to find that they can be clean over longer or shorter periods when it is to their advantage to be so.

There may be only a staining of the underwear or the entire movement may

be evacuated into the clothes. The child does not appear conscious of any unpleasant sensation or odor and rarely changes his clothes unless urged by the parents. Hiding of the soiled clothing is very common where the child has been scolded or shamed by the parents.

Treatment.—In most instances fecal incontinence is readily amenable to treatment. In boys who soil because of carelessness, regular and adequate time for defecation in the morning and frank discussion of the social implications of the symptom by the parent or physician are usually sufficient for cure although occasional relapses occur. If the stools are soft and passed several times a day, the elimination of irritating foods from the diet may be of value. An attempt should be made to correct psychologic maladjustments. In young children who soil following the birth of a second child the patient should not be present when the infant's diapers are changed and discussion about diapers should be avoided in the patient's presence. Having the child wear dirty pants or wash the underwear is of no help. Shaming is useless and probably harmful.

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CHAPTER XXVII

ENURESIS

Incidence. Urinary Incontinence Associated with Organic Defects. Symptomatology. Factitious Enuresis. Etiology, Socio-Economic Status, Age, Sex, Race, Deep Sleep, Severe Illness, Water-Drinking, Urinary Acidity, Spina Bifida Occulta, Heredity, Mental Deficiency, Institutional Enuresis. Personality Changes. Pathogenesis, Irritable Bladder, Training, Emotional Factors. Treatment, Psychologic Management, Suggestion, Belladonna, Training, Rewards, Salt Therapy.

"WHEN WILLIE WAS A LITTLE BOY"

When Willie was a little boy,
Not more than five or six,
Right constantly did he annoy
His mother with his tricks,
Yet not a picayune cared I
For what he did or said
Unless, as happened frequently
The rascal wet the bed.

Closely he cuddled up to me
And put his hand in mine,
'Till all at once I seemed to be
Afloat in seas of brine.
Sabean odors clogged the air,
And filled my soul with dread
Yet I could only grin and bear
When Willie wet the bed.

'Tis many times that rascal has
Soaked all the bedclothes through
Whereat I feebly light the gas
And wonder what to do.
Yet there he lay, so peaceful like;
God bless his curly head
I quite forgave the little tyke
For wetting of the bed.

Ah me, those happy days have flown,
My boy's a father too,
And little Willies of his own
Do what he used to do.

This chapter, by the authors, was first published in the *Journal of Pediatrics*, Vol. 12, No. 6, June, 1938, and is reproduced here in revised form by permission of the publishers.

And I, ah, all that's left for me
Are dreams of pleasures fled;
Our boys ain't what they used to
When Willie wet the bed.

Eugene Field
(From "Hold Everything" by Bob Sherwood, last of Barnum's Clowns).

Incidence.—By enuresis is meant the repeated, involuntary discharge of urine after the second year of life. It is a frequent symptom in childhood and may be associated with a great many conditions of widely different origins. Of 1,000 children between the ages of 4 to 12 years, inclusive, in the Out-Patient Department, Bellevue Hospital, 26 per cent gave a history of enuresis. This includes children in whom the basis was grossly organic, but these constitute only a small proportion of the cases.

The high incidence in the Bellevue Hospital series is certainly not representative of the general population and is dependent on special sociologic and psychologic conditions. The figures, nevertheless, give some measure of the frequency of this condition and indicate that it is one of the most common disorders of childhood. At the Harriet Lane Home Dispensary enuresis was the chief complaint in one out of every 56 children. In many instances the symptom is taken for granted by the parents and is not mentioned unless special inquiry is made.

Enuresis is to be distinguished from the urinary incontinence associated with gross organic lesions. Involuntary micturition may be present with local conditions in the genito-urinary tract, such as cystitis or vesical calculus. Under these circumstances there is marked frequency and urgency, and leukocytes or red blood cells or both are found in the urine. The etiologic significance of conditions like balanitis, phimosis and adherent prepuce is doubtful, and cures following the correction of such difficulties are probably dependent on a psychic rather than a physical effect.

Urinary incontinence may be caused by disease in the innervation of the bladder, *e.g.*, hematomyelia, transverse myelitis, spina bifida or cord tumor. The association between spina bifida, bladder disturbances and clubfoot has long been known. Enuresis may be part of a general disorder such as diabetes mellitus, epilepsy or diabetes insipidus.

In older studies on patients with enuresis trabeculated bladder, residual urine and anomalies in vesical configuration were reported in a considerable proportion of cases. In a urologic study of 330 cases of enuresis, resistant to ordinary methods of treatment, Campbell found that about two-thirds showed abnormalities in the urogenital tract which he believed to be causally related to the enuresis. The most common lesion in girls was a urethrotrigonitis and in boys congenital obstructions along the urethra usually at the meatus. Next in frequency in boys was a prostatitis and verumontanitis. In addition a wide variety of other lesions were found.

Symptomatology.—The bed may be wet once or several times during the night. Micturition before going to bed seems to have no influence on the symptom. The child usually does not awaken even after the urine is passed. Older

observers refer to the force with which the urine is expelled, but this is by no means constant. In some children there is urinary dribbling. The volume of urine in enuretics is unchanged. Friedell observed that, in a considerable proportion of children with enuresis, the concentration of urine is lower during the night than during the day, a reversal of the condition in normal individuals.

Frequency and urgency are present in the majority of patients. Pain in the lower abdomen or perineum is a not uncommon complaint in children with urgency who are forced to hold their urine. Diurnal enuresis frequently accompanies nocturnal enuresis. It may occur during the child's nap but often takes place while the child is awake. It was noted in 40 per cent of the cases at Bellevue Hospital and other observers have noted a similarly high proportion of day wetting among enuretics.

Diurnal enuresis without bed-wetting is unusual. In boys it is ordinarily due to unwillingness to take time off from play to empty the bladder. The child may wet because he is ashamed to ask permission to leave the classroom. It occasionally occurs with laughter or fright.

Bed-wetting usually disappears spontaneously after the twelfth to fourteenth year although it occasionally persists into adult life.

Enuresis nocturna, *i.e.,* involuntary bed-wetting, is to be distinguished from voluntary bed-wetting, or factitious enuresis. This is usually psychogenic, the child wetting out of spite or to attract attention. It may also take place if the child is too lazy to leave the bed or is afraid of the dark, if the bedroom is too cold, if the toilet is inaccessible, or in a neglected household where habits of cleanliness are poorly developed.

Etiology.—Although enuresis is seen frequently in all social economic groups, it is more common in clinic than in private patients. This is because of inadequate training procedures among clinic patients, lower standards of cleanliness, inaccessible toilets, crowded quarters making it necessary for several children to sleep in one bed and exposure to cold and dampness. It is of interest in this connection that enuresis was a frequent complaint among soldiers in all the armies during the World War but was practically nonexistent among officers.

Age.—In the Bellevue Hospital series the percentage incidence of enuresis remained unchanged from the fourth through the twelfth year. The condition is said to be more common in males than in females, although the opposite has also been reported. No sex difference was noted in the Bellevue Hospital series.

Race.—According to Davison, enuresis is much more common among white than among Negro children. He feels that this is not because of disregard of the symptom in the Negro families since, among the poorer classes in Baltimore, colored children are usually better cared for than white children. He attributes the difference to the greater frequency of neurotic and neuropathic conditions among whites. Anderson found no racial difference.

Depth of sleep has no relation to the incidence of enuresis.

Enuresis is not infrequently observed in children, previously continent, *following a severe illness.* In these patients the symptom may be based on the child's desire to retain the special attention of the parents and attendants which he had

had during the illness. Usually a careful history will elicit the fact that the child has had urinary symptoms such as frequency, urgency and occasional wetting prior to the illness, indicating that the psychologic is not the only factor.

The *drinking of large amounts of water before* bedtime may lead to bed-wetting and should be suspected when the specific gravity of the urine is very low. Water drinking is considered a great sport by many children, and water drinking contests are not infrequently engaged in with zest. This may be developed to such a degree as to lead to a diagnosis of diabetes insipidus.

Urinary acidity plays no part in the etiology of enuresis.

Spina bifida occulta, as indicated by defects in the lumber and sacral vertebrae, is no more common in children with enuresis than in those without it.

Heredity.—It is frequently possible to obtain a history of enuresis in a sibling or in the parents. Frequency, urgency and nocturia are common complaints among the parents of enuretics.

Mental Deficiency.—There is no relation between enuresis and mild degrees of mental deficiency. Children who are moderately retarded are readily trainable at about the same age as normal children. Addis found no striking difference in the intelligence quotient between enuretic and nonenuretic children. Enuresis is common in low-grade, mentally defective children who are incapable of learning vesical control.

Institutional Enuresis.—Enuresis occurs frequently in institutions for the care of children. It is not clear whether this constitutes a special etiologic group. According to A. F. Payne, about 10 per cent of the children at the Hebrew Orphan Asylum, New York, are bed-wetters. Payne has used many methods of treatment without success. The giving of rewards, an appeal to a sense of decency and cleanliness, isolation and restriction of privileges were unsuccessful. Awakening the children during the night made them irritable and nervous. The most effective method used was a thorough explanation of the situation to all the children in the home in a kindly, sympathetic way.

Fecal incontinence is occasionally associated with enuresis.

Children with enuresis often present personality difficulties, but it is not clear whether these are more frequent than in nonenuretic children. The bed-wetter may develop feelings of inferiority and a sense of guilt if he is shamed because of his habit. There may be sleeplessness because of fear of wetting the bed with resulting hyperirritability and easy fatigability.

Pathogenesis.—Three major mechanisms should be considered in the analysis of patients with enuresis: the "irritable bladder," the character of the training for vesical control, and the psychologic interrelationships between the child and his environment. Though enuresis may take place when only one of the mechanisms is operative, frequently 2 or all 3 are of etiologic significance in the same patient.

Irritable Bladder.—The term "irritable bladder" is used to denote a condition in which abnormal urgency and frequency of urination (pollakiuria) are present. The condition, first described in 1865 by Trousseau, occurs in the large majority of persistent bed-wetters. In this group enuresis is ordinarily continuous from infancy, differing in this respect from the enuresis of a purely psychogenic

basis in which bladder training is established in the normal way and wetting takes place after a free interval of several years. The potential bed-wetter may be suspected during infancy when repeated attacks of ammoniacal dermatitis (diaper rash) occur. In such infants urinary frequency is often present during the attack of ammoniacal dermatitis and persists after the condition has been alleviated. Inquiry will often reveal that urinary frequency, urgency, or bed-wetting is present in a parent or in one or more of the siblings.

Enuresis in the pollakiuric individual is ordinarily persistent, occurring regularly night after night and year after year in contrast to psychogenic enuresis where wetting is irregular with longer or shorter free periods. Day wetting usually accompanies night wetting.

It is important to remember that frequency and urgency may be present without enuresis and involuntary micturition may take place only during periods of nervous tension, cold weather, or when a toilet is inaccessible. Indeed irritable bladder occurs in well-trained, intelligent children more often without than with enuresis. Whether or not it is accompanied by enuresis, pollakiuria has the same significance and is susceptible to the same treatment, namely, belladonna.

Children with irritable bladder are difficult to train and are often 3 or 4 years old before complete urinary control is established. Consequently conflict around the urinary function is much more frequent than in normal children.

The irritable bladder persists into adult life. Though the enuresis usually disappears at or before puberty, urgency and frequency remain and in severe cases there may be nocturia. Adults who have been persistent bed-wetters during childhood develop urgency more readily than normal individuals when exposed to cold or to nervous tension.

The condition is familial. Usually one of the parents has urinary symptoms such as those described above, which have been present since childhood and one or more siblings may be affected. Adults are often hesitant to admit that they have been bed-wetters during childhood but a history of frequency and urgency is readily obtainable.

A psychic factor of greater or lesser importance ordinarily contributes to the clinical picture, as it does to the urinary function in normal individuals. The agitation and concern of the child lest involuntary micturition takes place serve to aggravate the condition. Nervous tension of any sort will exaggerate the difficulty. Furthermore, the child may use the bed-wetting as an expression of his dissatisfaction with his parents or siblings.

The presence of urinary symptoms, persisting from infancy throughout life, occurring in several members of the same family and in several generations, strongly suggests that this condition has an anatomic basis, presumably in the innervation of the bladder.

The Physiology of Micturition.—During the filling of the bladder, intravesical pressure remains practically unchanged until a threshold is reached at which level the pressure rises rapidly and active vesical contractions take place. Only then does the desire to micturate occur. At this critical pressure mild, rhythmic contractions of the detrusor muscle which opens the internal sphincter appear. The threshold may be lowered by a number of stimuli such as sounds, odors,

temperature changes, coughing, laughing, straining and by standing erect. With increase of bladder volume, a sensation of distention intrudes upon consciousness. The internal sphincter contracts and relaxes in reciprocal relationship with the detrusor muscle. It is entirely involuntary and its reaction to voluntary control is secondary to the behavior of the detrusor. It remains closed during intervals of slight or absent vesical contraction. The external sphincter which is under voluntary control also remains closed and opens only after opening of the internal sphincter. When micturition is completed it closes before the internal sphincter.

Voluntary control of micturition is effected solely by voluntary or subconscious inhibition of the mechanism of spontaneous reaction to distention.

The bladder is innervated by 3 sets of nerves. The pudic nerve is voluntary and arises from the first 3 or 4 sacral segments. It carries sensory fibers from the urethra and is the motor nerve to the external sphincter. The pelvic nerve, part of the parasympathetic nervous system, is also derived from the first 3 or 4 sacral segments of the spinal cord. It conveys most of the sensory impulses from the wall of the bladder and carries motor impulses to the detrusor, which opens the internal sphincter. The hypogastric nerve, part of the sympathetic system, transmits vesical sensation. Its motor functions are many: inhibition of the detrusor muscle; contraction of the ureteral meatus, trigon, internal sphincter and smooth muscle of the prostate and seminal vesicles; transmission of vasomotor impulses to the bladder. Some investigators have also observed contraction of the detrusor muscle on hypogastric stimulation.

It would appear that in individuals with irritable bladder the threshold at which active vesical contractions take place is at a lower level than normal and that voluntary or subconscious inhibition of the spontaneous reaction to distention is incompletely developed. The favorable effect of belladonna is dependent on inhibition of the detrusor muscle which is innervated by the parasympathetic nervous system.

Amberg and Grob observed a definite influence of atropine on the bladder function in 9 out of 19 children with enuresis. The pressure in the bladder was reduced even when the bladder contained larger amounts of fluid than before the administration of atropine and the amplitude and the frequency of contractions were reduced. The bladder could hold more fluid without its escaping around the sides of the catheter and, when discomfort was experienced, it was slight. Campbell also found that belladonna had a relaxing effect on the bladder and that the effect is more constant with the tincture of belladonna than with atropine.

Faulty training is an important contributing factor in the etiology of enuresis, particularly when there is irritable bladder. Delayed training may lead to enuresis when the maturing child's warnings of a full bladder are disregarded. If the optimal time to teach voluntary control of micturition is not utilized, training becomes increasingly difficult; this is particularly the case when other habits of cleanliness are neglected. As the child grows older, the habit of automatic urination in response to desire and without regard to circumstances becomes fixed and training must therefore be directed against breaking up an undesirable habit as well as introducing a desirable one. Furthermore, as the child matures, he reaches

a stage of independence and negativism where training may be resisted and resented.

Parents who were themselves enuretic in childhood are likely to be more lax about training than other parents. They seem to be more tolerant toward the symptom, probably because they wish to protect the child against the suffering which they endured from critical parents and siblings during their childhood. Occasionally such parents are overzealous in their training procedures and oversolicitous regarding the procedure in an attempt to avoid enuresis later on.

Inadequate training is occasionally seen when the mother, in her desire to keep the child dependent on her, interferes with psychologic maturation by not permitting the child an adequate outlet for his emerging sense of self-dependence. She continues to wash, comb and dress the child at an age when children should be taught to do these things for themselves. Except for these rare instances, enuresis is uncommon in overprotected children.

Too early training, *i.e.*, before the last trimester of the first year, often leads to an undesirable tension between parent and child regarding the urinary function. Children, trained during the early months of the first year, often relapse and must be retaught later on. This process is difficult and may lead to overemphasis on a function which should be a matter of routine. Relapses are also seen when training is interrupted by the occurrence of an infection.

A number of problems may arise as a result of training difficulties. The mother's censorious attitude may give the child a sense of inadequacy and, at the same time, arouse his negativism and make him resistant so that wetting out of spite occurs. Fear of failure may become an obsession with the child and lead to a state of nervous tension, thereby making a situation which is already bad a great deal worse.

Psychogenic Enuresis.—Though psychic factors, other than improper training, influence to some degree the severity of the condition in most children with enuresis, they are probably of primary influence in only a few. Unlike most behavior disorders, enuresis is, to a large extent, a social disease, occurring more frequently in clinic than in private practice. Unusual as a behavior disorder, also, is its occurrence during sleep. Although night terrors and sleep-walking also take place during sleep, they are ordinarily occasional manifestations, whereas enuresis usually occurs regularly night after night and year after year. It is of interest that, whereas Jewish children are frequent patients in child guidance clinics, they are rarely enuretic, presumably because of the intensive care which they receive. Psychic factors, however, play an important secondary role in most patients with enuresis.

Of the behavior patterns which may give rise to this symptom, one of the most common is that in which the child wets the bed as an attention-getting or spite mechanism, the symptom being directed against a neglectful or overauthoritative parent. Enuresis may also be precipitated in first-born children by the birth of a sibling. In such instances there is jealousy of the new arrival, vengeful feelings against the parents, a desire for attention and an attempt on the part of the child to identify himself with the new baby. Under these circumstances children may soil as well as wet, may prefer to wear diapers, may wet both day and night and

often while awake. They frequently show great interest in the diapers of the infant. An undue emotional attachment to the mother may lead the child to wet the bed in order to retain as long as possible the infantile relationship.

When enuresis is based primarily on a spite or attention-getting mechanism, the clinical picture differs from that in the child with irritable bladder. Urinary control is established in the normal way during the second year of life and the child remains dry for several years. Wetting usually begins between the fourth and the eighth years, occasionally earlier or later. It occurs most often only during the night. It is ordinarily unaccompanied by frequency, urgency, or day wetting, and is irregular. The child may wet for several weeks, then stop completely for a time and start again. A change of environment may be sufficient to stop the enuresis for days or weeks or sometimes for the entire stay away from home. It is important to remember that in psychogenic enuresis, children may wet the bed or their clothes intentionally (factitious enuresis).

Treatment.—The treatment of a child with enuresis requires an understanding of the factors underlying the condition and comprehension of the influence of the symptom on the personality of the child. The therapeutic methods employed may represent a greater psychic trauma for the child than the condition itself and this fact should always be kept in mind when a line of treatment is being formulated.

Before undertaking treatment, a careful history should be taken in order to permit evaluation of the relative importance of irritable bladder, faulty training and psychogenic factors. The urine should always be examined at the outset of treatment. In patients who do not respond to therapy, the examinations should be repeated several times, particularly for the presence of white blood cells. Factitious enuresis (voluntary wetting) should be differentiated from true enuresis.

Psychologic Management.—The parents should be urged to assume an unemotional attitude toward the symptom. Great concern may lead the child to use the wetting as an attention-getting or spite mechanism. Severe censure or shaming may agitate the child unduly and make him fearful and apprehensive, thus aggravating the symptom and possibly coloring his personality permanently. The condition should not be discussed in his presence and no attention paid to, nor agitation shown concerning urinary mishaps. Wetting is taken as a matter of course and the child is encouraged and reassured when improvement begins.

When enuresis is primarily psychogenic, the mechanisms involved should be studied and proper treatment instituted. In these patients the enuresis itself often requires little attention and, with correction of the factors involved in the behavior difficulty, it promptly disappears. Instances of this type are occasionally seen, however, where all therapeutic devices are of no avail. Belladonna is of no value unless there is irritable bladder.

Suggestion.—All efforts at treating enuresis should be combined with suggestion. One of the most potent factors in the therapy of this condition is the physician's conviction that he will be successful and every procedure should be introduced with the statement that it will assist toward a cure.

Belladonna.—For patients with irritable bladder, belladonna is of great benefit. In order to be effective it should be given in large doses. One may safely start

with five drops of the tincture of belladonna (equivalent to 1/600 grain of atropine) three times a day for a 5-year-old child and increase the dosage by 3 drops each day (one drop each dose) until distinct improvement in the urinary symptoms or flushing of the skin appears. It is usually possible to give children with irritable bladder large doses, up to 20 or 30 drops three times a day. No improvement is to be expected until the dosage reaches about 15 drops, three times daily. The dosage should be increased to 20 drops if the child will tolerate it, even though symptoms disappear with a smaller amount. Belladonna should be continued for 6 to 8 weeks or longer after the enuresis has ceased in order to permit the habit of voluntary control to become established. Belladonna, by relieving the urgency and frequency, makes the patient more confident of his ability to control the urinary function. In this way the agitation and fear which intelligent children feel are relieved and a strong psychic factor in the mechanism is lessened. The child should sleep in a warm bed.

Training.—Treatment with belladonna should be combined with training and suggestion. Fluids should be limited in the late afternoon and a dry supper given. During the day an attempt should be made to prolong the interval between voidings for as long a time as possible. The child is awakened once or twice during the night, dressed in bathrobe and slippers and walked to the toilet. Care should be taken that the child is fully awakened when he voids, since putting a sleeping child on the toilet has no value in bladder training. The number of times the child is awakened is diminished as the child improves. Elevation of the foot of the bed may help.

Rewards.—The system of rewards is at times effective. The child is given a chart on which the days of the week are written and he is instructed to note the dry and wet nights. A gold star is given for each dry night. This method is most useful with children from 5 to 7 years of age who may be receiving stars for good behavior at school. It gives the child impressive evidence of improvement in terms which he can readily appreciate.

CHART FOR BED-WETTING

Day	Before	Hour Awakened	After
Monday			
Tuesday			
Wednesday			
Thursday			
Friday			
Saturday			
Sunday			

Mark 0 if not wet. Star for each 0.
Mark 1 each time bed is found wet.

In diurnal enuresis, when the ammoniacal smell is offensive, rinsing the underclothes in a saturated solution of boric acid or other antiseptic is helpful.

Krasnogorski has obtained good results in the treatment of enuresis by the *administration of 5 gm. of salt* immediately before bedtime. The treatment is based on the fact that salt leads to a retention of water. The evening meal is given about two hours before bedtime and contains little salt but fluids as desired. The fluid given with the low salt meal is excreted by the time the child goes to bed. Immediately before the child goes to sleep he is given a sandwich made with salted herring, smoked salmon, bacon or swiss cheese and salt butter.The amount of salt administered in this way is sufficient to reduce the urinary secretion during the night to 100 to 125 cc., an amount insufficient to start the reflex of emptying the bladder.

Where general treatment is unsuccessful, the child should be referred to an urologist. Good results have been reported following urethral dilatation.

The appended case history illustrates the interplay of several factors in the pathogenesis of enuresis in a young child:

B. N., a girl, was the first born child of intelligent parents. The mother kept a diary of her development and it was therefore possible to trace in detail the training history. Training for vesical control was begun at 3 months of age and at 11 months the mother started picking up the child at night. This upset her and she cried so long that the procedure was discontinued. Training for nocturnal control was attempted 6 months later but again there was so much resistance that the effort had to be discontinued. At this time slow progress was being made in day-time training. At one year the child would occasionally indicate a desire to defecate but this was not consistent and the mother consequently tried putting her on the toilet at hourly intervals. She resisted this energetically.

Since early infancy the child suffered with a refractory diaper rash. The symptoms were alleviated by restricting fluids and by using the antiseptic diaper but the condition often recurred and at 7 months of age there was secondary infection with furunculosis of the buttocks.

At 2½ years, she rarely wet herself during the day except at nap-time and never soiled. Night wetting persisted and there were frequency and urgency during the day. At about this time she started to attend a nursery school. There were temporary relapses in both day wetting and soiling but at 3 years she was again fairly well trained during the day. She still continued to wet at night.

B. N. was a little over 3 years of age when her sister was born. She seemed to accept the new baby kindly and everything went well for 5 or 6 weeks but then day wetting and soiling recurred. The mother wrote: "Sometimes for a week or two we think she has stopped and then accidents occur as frequently as before. There seems to be no consistent improvement."

The father had never had urinary symptoms. The mother wet the bed until 12 years of age and still had urinary frequency, voiding about every 2 hours. She had no urgency except in cold weather or when under nervous tension and there was no nocturia. The maternal grandmother had similar symptoms. The younger child had ammoniacal dermatitis which was never entirely relieved by treatment.

At 3½ years, B. N. was wetting and soiling both day and night. The mother felt that the symptoms were more likely to occur when the father was playing with the younger child. The stools were sometimes soft, at other times normal in appearance.

The parents were instructed not to discuss the symptoms in the patient's presence. The infant's diapers were changed in her own room and mention of the infant's stools and micturition was discontinued in B. N.'s presence. Both parents were aware that B. N. was jealous of her little sister and were making every effort to give her added attention.

The mother thought that fruits and coarse cereals aggravated the soiling and they were therefore removed from the diet.

Tincture of belladonna was begun in 5-drop doses, increasing the amount by one drop each dose so that the child was receiving 10 drops 3 times a day by the end of 5 days. There was no improvement until the dosage was increased to about 15 drops at which time there was disappearance of all symptoms during the day. Night wetting, however, continued. The pupils were moderately dilated but reacted promptly to light. There was no flushing and no dryness of the throat. The dosage was gradually increased to 25 drops of tincture of belladonna. The amount of urine passed each night was diminished but the enuresis continued.

In this child premature attempts at training led to resistance and to over-emphasis on the toilet functions. The presence of irritable bladder was indicated by the family history, the persistent diaper rash, urinary frequency and urgency and day as well as night wetting. Of etiologic significance was jealousy of the younger child, a desire for attention and an attempt on the part of the patient to identify herself with the admired baby.

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CHAPTER XXVIII

DISTURBANCES OF SLEEP

Etiology, Faulty Training, Overstimulation, Secret Practice of a Habit, Emotional Upsets, Conditioning, Fear, Suggestion, Curiosity, Anxiety and Worry. Symptomatology, Nightmares, Night-Terrors, Sleep Talking, Somnambulism. Treatment, Elimination of Etiologic Mechanisms, Drugs.

Etiology.—Disturbances of sleep are common during childhood. There may be difficulty in falling asleep, wakefulness, crying at night, restless sleep, unwillingness to sleep except under special conditions, nightmares, night-terrors, sleep walking. Poor sleep during the early months of life usually results from physical causes such as hunger, soiled diaper, the pain or itching of ammoniacal dermatitis, overdistention. Occasionally parental agitation may lead to disturbed sleep in the young infant. Infants in hospitals sleep relatively little. After the sixth month psychologic factors become more important.

Faulty Training.—The most common cause of sleep disturbances during the preschool period is faulty training. The symptom is rarely an isolated one and usually accompanies other training difficulties, particularly eating. Improperly trained, overindulged children often insist that their parents go through a ritual with them at bedtime. They may require a parent to lie down beside them until they are asleep or insist on being put to bed in the parent's bed; other children will not sleep without a light, still others dawdle about going to bed, getting up several times to do something which has been forgotten. These maneuvers may represent a real desire to remain awake or they may be simply a method of obtaining attention.

Overstimulation.—Restless, hyperactive, excitable children frequently suffer from sleep disturbances. If the mind is crowded with ideas sleep will be delayed and when it comes it may be restless and unsound. Overexcitement may result from overstimulation with dancing lessons, drawing lessons, exciting school activities or from active play immediately before bedtime. Older children stay awake in order to read and the excitement of the story is apt to lead to wakefulness or disturbed sleep.

Secret Practice of a Habit.—Some children remain awake at night in order to practice, in secret, habits which are not permitted during the day such as nail-biting, thumb-sucking and masturbation. Masturbation is a not infrequent cause of wakefulness.

Emotional Disturbances.—If there have been difficulties and misunderstandings during the day the child may lie awake at night to ponder his problems. Sleep means relaxation and the cessation of mental and physical activity and one cannot rest when emotionally disturbed. Some children remain awake to plot

revenge for assumed or real injustices or because they are concerned about their conduct.

Conditioning the child against his sleeping room or against being left alone may lead to sleep disturbances. Being put to bed or shut in one's room as a punishment is likely to cause dislike of that particular place.

Fear.—Children who have not been trained to assume responsibility may be afraid to be alone at night because they have not been accustomed to be by themselves during the day and have not been taught how to act if something unforeseen should happen. Darkness, creaky beds, slipping covers or shadows may frighten an imaginative child. Even adults sometimes suffer from this. Stories of hob-goblins and the bogey man intensify this fear and should not be told to children. At present it is more common for children to be afraid of burglars and kidnappers because of the radio or discussion of newspaper stories in their presence. The possibility of fire in the house is also a source of fear.

Suggestion.—Sleep disturbances in children may be unwittingly suggested by adults. Casual remarks regarding one's inability to fall asleep or what a poor night one has had may appeal to the child as attractive adult attitudes and may be imitated.

Curiosity.—Adult conversation within hearing of the child may stimulate his interest and curiosity, thus preventing sleep. If the child shares a room with his parents or sleeps near by and has had the opportunity to observe the sexual act he may remain awake in order to see more or to ponder what he has already seen. This may lead to disturbing dreams, sleep-walking and night-terrors. After one year of age the infant should not share a room with the parents.

Anxiety and worry are potent causes of wakefulness in older children. The child may be concerned about unsatisfactory conditions in the home such as parental incompatibility, sibling rivalry or economic difficulty. Worry frequently centers about the school situation. The child may be dissatisfied with his school performance or he may be concerned about the impression he has made on a favorite or feared teacher. Frequently parents expect more from the child than he is able to achieve and this places a strain on him which may express itself in wakefulness. Unpopularity with playmates may also interfere with sleep. During adolescence girls often worry about social inadequacy or unpopularity. In adolescent boys concern is often centered on poor performance in athletics and worry and uncertainty about sex.

Symptomatology.—*Nightmares* and *night-terrors* are fright reactions during sleep. In the case of the nightmare the child awakens in terror from a dream usually characterized by a feeling of suffocation and helplessness. He can ordinarily relate his bad dream, can recognize people about him and can be readily calmed. Nightmares are often very vivid and the recollection of them, accompanied by a sense of dread, sometimes recurs the following day when the child is awake. They are not uncommon and occur most frequently within an hour or two after going to bed.

Night-terrors are relatively rare. They differ from the nightmare in that the child does not awaken fully and has no recollection of the incident. He is usually found sitting up in bed or standing or running about, greatly agitated and

screaming. Often there are hallucinations of strange people or animals in the room. The child is disoriented and does not recognize persons about him. The attacks subside after several minutes, the child dropping off to sleep without remembering the episode. At times it is necessary to awaken the child before the attack subsides.

Some children seem especially prone to night-terrors which may be repeated 3 or 4 times a month with restless nights in the interim. In others they occur only once or recur only at long intervals. There appears to be no direct association between night-terrors and other sleep disturbances; but all are seen most frequently where there is emotional instability and overanxiety. In general, nightmares and night-terrors are dependent on unsatisfactory home conditions and emotional strain, frequently associated with excitement and overstimulation.

Sleep Talking.—Talking during sleep is not uncommon in young children. The speech usually is mumbled and unintelligible. Often the child calls the mother's name or addresses some remark to her. Sometimes he speaks of his waking experiences or expresses a wish. He may call out in sleep and appear frightened or he may become so upset that he cries and screams as in the case of night-terrors.

Somnambulism or sleep walking is uncommon before adolescence. In the young child it is usually directed toward the parent's room and may be an attempt to satisfy curiosity about the sexual act or a desire to share the mother's bed. It is possible that the child is seeking in fantasy what he cannot achieve in reality. As with adult somnambulists some children do constructive things, others things which are destructive and foolish. Excellent mental and muscular correlation enables them to walk fearlessly upon precarious ledges. The episodes usually end happily but there have been numerous deaths of sleep walkers. To awaken a somnambulist when he is in a dangerous position is inadvisable as it may upset the coordination between mental and muscular activity. The child is usually unaware that he has been out of his bed and, even when awakened during his walking, cannot describe what has happened. Some sleep walkers speak with great facility and can carry on a conversation.

Treatment.—The treatment of sleep disturbances necessitates first, the correction of the underlying mechanism and second, a discussion with the parent of the proper attitude toward sleep. The problem should be approached without undue concern. It is important to keep in mind that there are fairly wide individual variations in the required amount of sleep and it is, therefore, unwise to expect all children to sleep exactly the same length of time. An inflexible attitude toward the sleeping schedule is as harmful as an overrigid attitude toward the eating situation.

Faulty training for sleep is usually a manifestation of poor general training. The entire situation should be reviewed with the parent and a plan laid down for establishing a better routine. The sleep rituals should be discontinued and the child made to understand that he is expected to remain in bed and that no amount of crying will aid him. During the period of training bromides or phenobarbital may be of benefit.

Overstimulation and undue excitement before bedtime should be avoided.

In a hyperactive child a warm bath, followed by a pleasant story may be soothing. If there have been difficulties or misunderstandings with the child during the day these should be discussed and adjusted before bedtime. Even if the child cannot explain the reason for his unhappiness the parent should comfort him and assure him of his worthiness.

Children, who have habits such as masturbation, nail-biting, etc., which they practice in bed, should be given sufficient exercise and a shorter rest period during the day so that they will be more apt to fall asleep immediately upon being put to bed. A sedative for a few days may aid in breaking the habit of lying awake. The undesirable habit should be treated.

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CHAPTER XXIX

SEXUAL DISTURBANCES

Masturbation. Homosexual Trends. Excessive Sex Interest. Petting.

MASTURBATION

Masturbation may be defined "as the manipulation of the sex organs for the purpose of obtaining a pleasant sensation."

Erections in boys are frequent during infancy preceding micturition and may follow manipulation of the sex organs. The practice probably has no sexual significance. Sometimes nurse-maids or parents unconsciously induce the habit by stroking the child's thighs thereby causing a sensation which is pleasurable and is therefore continued. The use of suppositories and enemas may direct attention to the sex organs.

Masturbation is said to be more common among female than male infants. Parents should be assured that manipulation of the genitals during infancy is not harmful and may be disregarded. In girls masturbation is accomplished by thigh friction or by rubbing the genitalia against a pillow or other object. At times the body is swayed backward and forward and the thighs crossed and uncrossed rapidly. This lasts for some minutes and may be accompanied by flushing and an appearance of excitement. The movements may cease abruptly and be followed by pallor, sweating and general relaxation. Not infrequently the parents interpret these reactions as convulsions.

Etiology.—In young children masturbation is most commonly due to *irritation* from tight clothing, phimosis, vaginal discharge or intestinal worms. Even such innocent acts as sliding down a pole or swinging may produce sensations leading to further investigation and manipulation of the genitalia. Masturbation is rarely taught by an older child to a child under school age. At a later period mutual masturbation occasionally takes place, more especially between boys. Alley-ways and dark cellars are the most common places of concealment and, if not discovered, a routine of disappearing into a sheltered spot to practice masturbation may be established.

After 10 years of age pleasurable sex sensations may be invoked by *erotic day-dreaming and indulging in certain games.* At this period most children become aware that their habit is undesirable and they become secretive and isolate themselves from family and friends to an increasing degree. Masturbation may be practiced for many hours each day, particularly while in bed but also in moving picture houses, on automobile rides and sometimes even at school or at the dinner table.

During adolescence masturbation is almost universal in boys and is very

frequent among girls. A sex fantasy life may appear, associated with a love object, usually some individual of the other sex. There may be sadistic or masochistic notions. At this time the child becomes more acutely aware of his habit and is often fearful of consequences and afraid that his appearance will betray him. A life which is uninteresting or is emotionally unsatisfactory contributes much to the desire for masturbation.

Masturbation is to be regarded with concern only when it becomes habitual. In most instances it is merely a passing phase requiring no treatment and untoward effects are due, for the most part, to poor management by the parents. There is no adverse effect on physical health, except insofar as worry and fear of detection or criticism may interfere with sleep and appetite. Occasionally urethral irritation, urinary frequency and pyuria are seen. Masturbation is harmful mainly in the moral and emotional spheres. When practiced to excess it may lead to self-reproach, a loss of self-respect and a feeling of inferiority. Fear of discovery may result in an undesirable secrecy and the child may be worried and fearful about the consequences of his habit. When indulged in excessively masturbation consumes much time and energy, leaving the child unable to concentrate well or to study properly. He is apathetic and uninterested and his parents become worried because of his inability to accomplish as much as previously. Mutual masturbation is not to be looked upon with greater concern than other forms unless the child is considerably younger than his partner so that there is reason to believe the older child may be imposing this habit on the younger one. The fantasy formation which often plays an important role in masturbation is an easily aroused vehicle of sexual gratification and may replace normal love objects to such an extent that it may form the main source of sex gratification. There may be a relinquishing of reality for the fantasy world or an unwillingness to make any effort to fit into the somatic world. At times the individual may not be content with normal sex life as an adult but may resort to unusual practices in order to obtain sex gratification.

Management.—The practice of scolding the child who masturbates and frightening him with tales of dire consequences such as insanity, imbecility or criminality is much more harmful than the habit itself. It causes the child to be ashamed and resentful because of the frequent criticism and there result tears, downcast looks, a loss of self-respect and a feeling of being irretrievably lost, thus increasing the difficulty in overcoming the habit.

The only successful approach to the treatment of masturbation is through a moral and intellectual understanding of the child. Both the family and the child should be assured that there is nothing harmful in the act and that it is only temporary and without serious consequences. It is often sufficient to tell the young child that masturbation is an infantile habit which he is too grown-up to continue. It may be explained that masturbation is a habit like nail-biting or thumb-sucking and that it should be stopped because it is disagreeable. After 10 years of age a frank discussion of the uselessness and unpleasantness of the habit is helpful. The disadvantages may be explained, such as the time and energy lost and the worry and shame which result. One should try to win the child's confidence by assuring him that he is not alone in his habit and that most children have

indulged in this activity at one time or another but have been able to overcome it. He should be assured that he can stop it himself if he will make the attempt and that he need not fear that others can know about his habit from his appearance or actions. It is important that he should not become ashamed and so develop a sense of guilt. When there is mutual masturbation it is not wise to speak disparagingly of the other child but rather to point out wiser outlets in play and athletics and to emphasize the greater pleasure obtained through group play rather than by concentrating all one's time with one other person.

Genital cleanliness should be maintained to prevent pruritus and local irritation should be eliminated. Irritation about the anus due to intestinal worms or other cause should be corrected. Occasionally circumcision in boys or freeing of an adherent clitoris in girls may be indicated.

Opportunities for masturbation should be avoided. Small children can be taught to sleep with their hands outside the covers. Small boys may wear trousers without pockets and it is well to avoid such toys as hobby-horses and swings. Children should be discouraged from playing in cellars and dark, isolated places. Various types of mechanical restraints have been tried. They are useless and actually harmful because they cause not only frustration but resentment. Most children will use any means of escaping from the restraint and will indulge in the habit excessively to make up for lost time and through a desire for revenge.

An outlet for the child's excess energy should be provided and his time should be fully occupied. A regular daily routine with plenty of exercise and wholesome social contacts is a great aid in overcoming this habit. Cooperative and competitive play are often of value. The child should be physically tired when he goes to bed so that he will fall asleep quickly and not have time or energy for masturbation. He should get up promptly upon awaking in the morning since erotic fancies are most frequently indulged in at this time. A sedative, such as sodium bromide or phenobarbital, may be useful as a temporary expedient, especially at night, so that the child will fall asleep quickly. A full and active life should be provided including gymnastics, games, dancing, etc. Social activities are very helpful and children who have numerous, active contacts and whose associates have a good moral tone, have less need to resort to this habit than those who lead an uninteresting, lonely life.

The child should receive as much sex information as his age, intelligence, attitude and questions indicate. He should learn not only the physiologic facts but also the moral obligations which make sexual control necessary. He has a natural curiosity about himself and a certain amount of sex enlightenment may help him to manage a situation better than if he is left entirely in ignorance.

The emotionally unsatisfactory life which is so often a factor in adolescent masturbation, should be investigated and corrected. The child who is unhappy and frequently bored will more often indulge in masturbation as a means of satisfaction than the well-adjusted child. An investigation of the unsuitable environment should be made and corrective measures attempted. Each child should be treated individually according to his needs and capabilities. Suggestions should be constructive and directed toward helping the child to achieve satisfaction in some field. Success will restore confidence. He should be trusted and should con-

tinue to retain his usual place in the family circle. Praise and applause when earned should be freely given. If the child has lost his self-respect the parents should attempt to instil in him a feeling of self-confidence as well as the assurance that they have confidence in him.

HOMOSEXUAL TRENDS

Behavior characteristic of the other sex is observed not infrequently in children. In most instances these children develop into normal adults but occasionally the behavior is sufficiently striking to cause concern. That some go on to become abnormal individuals is indicated by the fact that the majority of adult homosexuals date the beginning of their unusual behavior back to childhood. Bender and Paster studied a group of 24 children in whom the behavior was so much like that of the other sex that a diagnosis of homosexuality seemed justifiable. They found that the condition may become evident as early as 5 or 6 years. More cases were seen in boys than in girls, probably because boys who show effeminate behavior are much more likely to excite comment than are girls who dress in boy's clothes, play boys' games, etc. The condition occurred in white children of all nationalities but was rare in the Negro. It was not related to the intelligence level, the intelligence quotients ranging from moron to superior levels.

The *etiology* is obscure. According to Bender and Paster the child in many instances is rejected by the parent of the same sex and shows great affection for the parent of the other sex. The children tend to identify themselves with the parent who offers them the greatest source of affection and security. In a few instances where the children identified themselves, as do normal children, with the parents of the same sex, these parents were overt homosexuals. Many children come from broken or badly disorganized homes. Few homosexual children have had sex experiences, and exposure to homosexual practices is not a common cause. Treatment of the child by the parents as though he were a member of the other sex rarely leads to homosexuality. Nevertheless this attitude may encourage any latent tendency in that direction. In most children, even the very young, the characteristic behavior seems deeply ingrained.

In addition to behavior characteristic of the other sex, homosexual children tend to be restless, cruel, aggressive toward smaller children and submissive toward older playmates. Many show psychopathic traits.

Treatment is unsatisfactory. Unfavorable home situations should be corrected if possible. It may be necessary to send the child to a foster home, if under 10 years, or to an institution if older. Homosexual trends in the adolescent should be approached with care and understanding and should be regarded as a medical rather than a moral problem. Shaming and teasing should be avoided. The child should be removed from the environment of homosexuals. His life should be made interesting with plenty of physical activity and little time for daydreams. Direct and intelligent discussion will often clear up uncertainties and feelings of guilt in the child. He should be assured that he is in no way physically different from other people and should be told that he is entirely capable of

marriage and of having children. Normal social contacts should be encouraged. Children of the other sex should not be forced on him but he should have ample opportunity to meet them.

EXCESSIVE SEX INTEREST

There is considerable conversation about sex among children of all ages. When the subject is taboo at home and the child knows less than his friends he sometimes resorts to excessive discussion of sex, using obscene and vulgar language. The reading of pornographic literature, writing of vulgar notes and exhibition of obscene pictures are likely to be indulged in to cover the insecurity the child feels owing to his lack of knowledge of sex. When the parents consider the whole subject filthy and indecent he finds it still more necessary to learn what it is all about and not to display his ignorance. Sex education and a willing, understanding attitude from the parent will quickly do away with the need to resort to this sort of behavior.

Children of 3 or 4 years occasionally examine each other's genitalia. They do this out of curiosity and no more significance is to be attached to this than to their examination of each other's feet or mouths. Somewhat later, if the child realizes that sex is taboo so that he may not consult his parents, he may attempt to gain some knowledge of sex differences by direct exploration or experimentation with a member of the same or the other sex. Exhibitionism occurs usually at the suggestion or insistence of other children. At 10 or 12 years peeping at adults is used as a means of obtaining further information.

When the child has sufficient sex knowledge and an understanding of sex differences this kind of behavior, which is motivated by curiosity, does not take place.

PETTING

The term "petting" is used at present to include a large variety of acts of a sexual nature, which lead in the direction but rarely end in sexual intercourse. It is frequently indulged in by adolescents. The greatest harm is owing to the excessive emotional stimulation which usually proves unsatisfactory to the individuals indulging in it. An intelligent sex education will give the child a good sense of values and an appreciation of acceptable behavior. Scoldings, shaming and strict supervision are of little value as they are apt to make the child resentful and encourage secretive activities.

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CHAPTER XXX

ANTISOCIAL BEHAVIOR

Lying, Fantastic Lies, Imitating Lies, Lies of Exaggeration, Lies of Convention, Defensive Lies, Compensatory Lies, Pathologic Lying. Stealing, Lack of Sense of Property Rights, Bribery, Desire to Possess, Revenge, Criminal Stealing.

LYING (MYTHOMANIA)

By lying is meant deliberate falsification with intent to deceive. It is uncommon before the fifth year of life. The symptom in children may be important in itself, as in the case of deliberate lies for self-advancement or evasion, but ordinarily it is of little significance. Even minor lies may achieve importance, however, where anxiety of the parent for perfection of the child leads to overemphasis on the situation; or where parent-child friction is already present and lying gives the parent an opportunity to rationalize his dislike of the child's behavior. Furthermore, the child, observing the concern of the parent, may use lying as a spite or attention-getting mechanism. Lying like stealing may become habitual.

Inaccuracies are common in the speech of the young child. He is unable to distinguish true from false and lacks understanding of relative values. He is confused as to the meaning of concepts like large and small, many and few, and hence he often uses them incorrectly. Fantasying and exaggeration are frequently a direct outgrowth of the early inaccuracies in speech. Comprehension of the significance of truthfulness is generally attained at about the sixth or seventh year.

Fantastic Lies.—Fantasying is not lying but it is sometimes interpreted as such by the parents thus causing unnecessary agitation and concern. It is common in young children. The child fabricates from the mere love of yarning or to escape from a world which he finds dull or disagreeable. The fancies and make-believe of childhood arise through confusion between reality and fantasy and are free from malice. To the young child there is so little logic or reason in most actions that it seems to him that anything can happen. He hears tales about fairies and goblins and the Easter Bunny and stories about animals who speak. He is often encouraged to invent stories in his play, pretending to be eating when there is no food, or saying that he is a prince, a dog or a lion. From here it is only a step to the fabrication of more elaborate tales. It may be desirable to encourage this quality thereby stimulating the imaginative faculty if it does not get out of hand. It is not harmful if the child is made to realize from time to time that these fancies are the products of his own imagination and corrective

measures need be taken only when fantasying is carried to an extreme and the child lives too much in an imaginary world.

Excessive fantasying can be readily overcome by gently directing the child's attention to the difference between fancy and reality. When a fabulous tale is told a simple question like "that's make believe, isn't it?" is ordinarily sufficient for this purpose. If the child fantasies to free himself from a world which is uninteresting or unpleasant an attempt should be made to correct the unfavorable environment. He may be shown the interesting aspects of everyday objects and told stories of actual happenings.

Imitative Lies.—Imitation of a parent who colors events to make a story more amusing or interesting is a common cause of lying. The critical sense is poorly developed in children and they cannot be expected to distinguish between lies told in jest and those told in earnest. Whatever a loved parent does is, in the early formative years, likely to be taken as a model. Parents should avoid exaggeration or fantasy in the presence of children and should not make statements which are not quite true. This is a common fault with parents who are often unaware of their error. It constitutes one of the most frequent reasons why children fail to develop a sense of true and false.

Lies of Exaggeration.—Exaggeration or bragging is frequent in children. Though this form of lying is not serious children should nevertheless be held, for the most part, to true statements and should be taught to recognize and admit inaccuracies in the things they say. Here again the child may be imitating a parent who is not always accurate.

Lies of Convention or Social Lies.—"The white lies" of adults are in common use in most households. The child frequently hears a parent say "I am not feeling well today" or "I have another engagement" in response to an invitation which he does not wish to accept. It is too much to expect the child to be entirely truthful in the presence of these daily falsehoods, the reasons for which he cannot fully understand. He is unable to appreciate that they result from the necessity to guard one's self against the demands and pressure of society or that they are used to give the impression of conformity without destroying individuality. The child first learns to lie in this way through imitation, but at a later time he may use this type of lying to avoid unpleasant tasks and to shift on to others what is expected of him. He may even come to believe that these excuses are the truth. If social lies must be used the child should be taught to use them only with definite indications and with complete realization of how and why he is lying. It would probably be preferable to have truth and frankness even at the cost of adult inconvenience.

Defensive Lies.—Children probably lie most often to escape punishment. The defensive lie may arise out of any situation in which the young child finds himself in danger of blame. Children are frequently surrounded by too many prohibitions and restrictions. They cannot possibly remember all the rules nor do they want to, and they consequently find themselves infringing on these rules. Many parents, in an effort to rear their children in perfection, fuss over the minutest details. No distinction is made between troublesomeness and disobedience and neither is permitted. If the parent thinks the child has done something

improper the child is quizzed about it. If he admits the act, he is punished; if he denies guilt and the parent is not quite sure of his position, the child probably gets off without punishment. In this way, a real advantage is gained by lying and the child soon comes to believe that lying is not wrong; it is being found out which is wrong.

A closely related form of lying results when the child is coerced into making a promise, the significance of which he does not understand. If a promise is not kept the child may be accused of a transgression though there may have been no real desire to commit a wrong. The best way to prevent lying of this sort is to avoid the necessity of lying. There should be as few rules as are compatible with living together and to these there should be as few exceptions as possible. If the parents believe that the child has done something which is forbidden they should not ask about it since their uncertainty gives an opportunity for lying. If they know the child has done something wrong, he should be confronted with the fact and not questioned about it and he should be punished for the lie as well as for the original misdemeanor.

When accused of lying some children admit their guilt at once, others deny it as long as possible and then become silent, while still others try to escape the consequences by adding other lies. Here will be seen the advantage of not giving the child the opportunity for further discussion. The parents should not accuse without being certain. They should point out the misdemeanor and institute punishment if necessary, thus avoiding the defensive lie.

In many instances lying may be corrected by explaining that it is just another way of running away from trouble and is a cowardly way of getting out of a difficult situation. Children have their own code of behavior. They taboo cowardice, tattling, etc. It should be explained that the burden of a guilty conscience is greater than the particular episode merits and that everyone respects a truthful person. The parents should be careful to be completely honest in their dealings with the child and between themselves, and the child's word should not be doubted. The advantage of mutual trust will be evident and the child will usually try to be worthy of the trust.

Compensatory Lies.—Lying is sometimes used by children in order to attract attention to themselves. Either the lying itself or the content of the lie may cause the parent to notice the child. Thus an outright lie such as "I have washed my hands" when the parent knows very well the child hasn't, will direct the parent's attention toward the child. When punishment for the lie results, this, in itself, is a form of attention and, under certain circumstances, the child may consider it desirable. The lies which gain attention, such as untruthful statements to the child's benefit, are frequent, but the opposite in which the child actually depreciates himself also occur. If attention cannot be obtained by being good, or pretending to be good, many children seek it by either being or pretending to be bad.

Children frequently lie in order to gain admiration and praise. Many parents place undue emphasis on perfection and on success in what is attempted. The child, unable to live up to parental expectations, invents successes in an effort to please his family and also to justify himself in his own estimation. The lies may be excuses for failure or they may be substitutions for what the child is

unable to do. Where too much is demanded it may seem to the child that only by lying can he hold his place in the family. Thus, he may be very poor in reading but if he is able to make his parents believe that he excels in arithmetic he may be praised rather than scolded. By frequent repetition he may persuade himself of his own excellence, and this may be carried to the point where the child forgets which is true and which false and becomes a habitual liar. Such lying can best be avoided if the parent will learn to accept the child on his own merits and will encourage him to look for satisfaction in the work itself and not solely in the end obtained or in adult praise of that result.

Personal antagonisms often lead to untruthfulness. An adult, when asked by a persistent child for a favor, may reply by saying that he is busy, not realizing that he made that answer only because he was annoyed. A child may react similarly. When repeatedly antagonized by some member of the family, he may become negativistic and refuse to do what is asked, making untruthful excuses and elaborating falsehoods not only to avoid compliance but to deliberately provoke the other person. He may even minimize his achievements, admitting failures which are purely imaginary in order to be annoying.

Vengeful Lies.—Revenge is a basis for lying as it is for stealing or disobedience. The child wants to get even with his parents and lies to annoy them. He replies to his parent's question "where have you been" by saying that he has been swimming because he knows that is forbidden, and will upset his parents. He derives a sense of importance from being able to put over the lie and have it believed and also from seeing his parent upset and angry. Revenge is frequently attributable to parental overauthority. Sometimes it results from the child's feeling that he has been unfairly treated or from his jealousy of the parent's interest in a sibling.

By pathologic lying is meant deliberate falsification without discernible advantage. It usually starts during adolescence and often persists throughout life, generally in association with other delinquencies such as stealing and running away. Occasional cures are seen.

STEALING

Stealing is a common symptom in childhood. Its apparent rarity is due to the fact that most parents hesitate to discuss their children's thefts, whereas other disturbances with less odious social implications are freely mentioned. In the crowded slum districts of large cities where pilfering of fruits, etc. from the push-cart is part of gang play, stealing approaches normal behavior and the child that refrains from such conduct is unusual.

Stealing is ordinarily an innocuous symptom in children and, if properly handled, is without serious consequences. In families where parent-child antagonisms already exist or where an overconscientious parent tries to apply the criteria of adult behavior to children, the importance of a minor theft may be exaggerated and serious consequences result.

The reasons for stealing are varied and isolation of the causative mechanism is often difficult. The parents should be warned against applying the terms "steal"

or "thief" to their children. Most children do not realize that stealing involves not only acquiring something for themselves but also depriving another person of that thing.

For purposes of simplification the mechanisms leading to stealing have been classified separately. It is obvious that several mechanisms may be operative in the same child.

Lack of a Sense of Property Rights.—Stealing is often based upon lack of a well-grounded sense of property rights. The desire to collect is instinctive and children as young as 4 years frequently hoard useless objects. This natural impulse is normally kept in check by a respect for the property of others, which the child must learn. Stealing may result when training in this respect is inadequate. When a child takes useless objects such as string, paper-clips, or stones, even though they may belong to someone else, it is rarely considered stealing, but when he acquires pencils, knives or stamps it is quite a different matter.

It is easy to understand that children brought up in crowded quarters with little or no privacy, sharing room, bed, clothes and toys with parents and siblings, may fail to develop a sense of property rights. This may take place, however, even in better homes. Children, taught to be unselfish and to share their belongings, naturally expect others to behave in a similar manner. When the child asks for money he is often told to take it from his mother's purse or his father's pocket. The contents of the child's pockets may be gone through at night by the diligent parent and anything disapproved of may be confiscated without an explanation. There may be no place in the home where the child's possessions are safe. He may see his mother going through the father's pockets and one parent opening the letters of the other and reading them. Under these circumstances the child reasons that he, too, has the right to examine and remove other people's property. The child without a sense of property rights may seem to steal when, from his viewpoint, he is merely following the example of his parents and making use of what he needs.

The child who steals on this basis should be taught by word and example the significance of property rights. Arrangements should be made so that he may have some privacy. Even in the poorest home a drawer or a box can be set aside where his own possessions may be safe from others and into which no one may pry without permission. At the same time he must be taught to respect the private property of others. If the parent considers the child's correspondence undesirable it should be forbidden and, if necessary, the letters destroyed but they should not be read. The child should have a right to his own clothes and books. He will better learn to appreciate and take care of them if he is to some degree responsible for them.

Bribery.—Children frequently steal in order to obtain the means of bribing playmates with money, candy, ice-cream or movies in an effort to prevent teasing. This form of stealing has been referred to as "splurge" stealing. It is often the only way to obtain sufficient money for this purpose as usually a great many children are involved and even a liberal allowance is inadequate. This type of stealing occurs in the school age child and almost invariably arises from a sense of inferiority or feeling of being different from the group. The child may have some

defect or may feel that he has; he may be teased for being too big or too small, for having a clubfoot, for being left-handed, for stuttering, for wearing shabby clothes, for being too well dressed, for having a governess or for any of a number of reasons. He may try to overcome the difficulty but if he does not succeed he may feel that the only solution is to pay off his tormentors. While the teasing continues life seems unbearable.

Splurge stealing is the commonest type of stealing at school age. The difficulty in treating these cases is that the cause for the stealing often is so far removed from the act. Usually the child, refusing to admit his feeling of inferiority, is ashamed to confess what he has done with the money and is apt to lie. Even after it has been determined that the money stolen has been used in treating the other boys, the necessity for the treat may still be difficult to discover since an adult may be unable to appreciate the reason for the feeling of inferiority.

This type of stealing is, in itself, without profound significance and ordinarily disappears promptly with proper treatment. When the real or imaginary defect from which the child is suffering can be corrected, this should be done at once. Bribes need not be given if the reason for the teasing has been eliminated.

Mothers should be impressed with the fact that children of school age prefer to be as much like their playmates as possible. A child who is in any way conspicuous is pointed out and ridiculed. Oddities of dress should be discouraged and maternal oversolicitude limited to the home. In some instances a defect may be capitalized, *e.g.*, left-handedness is an advantage in pitching, glasses are becoming, etc. When the defect cannot be cured the child must be taught to face the world and live openly with it. To instil confidence in himself the child with a feeling of inferiority may be encouraged in compensating activities in which he may have some talent as music, drawing, swimming, etc.

A closely related form of stealing is that seen in children who steal in order to obtain money to bribe their way to popularity among their schoolmates. In most instances the value of the bribe is the important point but in older children the ability to steal and get away with it may result in recognition by the group.

Desire to Possess.—The desire for possession is frequently the basis for stealing and is seen in all socio-economic groups. A child with a great many toys of his own may steal in order to obtain some particular toy which he greatly desires. Stealing on this basis is rare in young children among whom the fear of being caught and the feeling that stealing is wrong are adequate deterrents.

The best treatment is an explanation of the reason why the child does not possess that which he desires. Even a small child can understand the economic inability to obtain all he desires. If the parents disapprove of some object which the child wishes a reason should be given and a substitute offered. Sometimes the child is deprived of something because the parent feels it may not be safe for him to have it. If the reason is adequate the child can usually be made to appreciate it.

When the child has many desires a weekly allowance based on the child's age, the economic situation of the family and the allowances of his friends is often of great value in avoiding or correcting petty thefts. The child should be permitted, as far as possible, to spend his money as he pleases so that he will not be tempted to steal in order to obtain something which has been forbidden.

Revenge.—Stealing may be an outlet for the child's vengeful feeling against his parents. The child feels himself neglected or discriminated against and steals in order to annoy his parents. Stealing also occurs where the parents are overauthoritative and the child must account minutely for his time, his money, etc. The child then steals in order to assert himself, and derives pleasure and a sense of importance from doing something on his own. Under these circumstances the objects taken are often unimportant, such as a key-ring or a pencil but objects of value may also be taken. The main desire of the child is to succeed in taking, rather than pleasure derived from the object taken.

Children who steal as a revolt against an overauthoritative parent often show other poor adaptations to authority and law. They are afraid to openly flaunt parental authority but will evade the issue and try to get away with as much as possible. For such children authority should be decreased and more freedom of choice given with greater opportunity to make decisions. The child's self-confidence should be developed and he should be made to feel that he is an individual in the household who is as important in his way as are the others in theirs. If the stealing has been going on for some time a calm and kindly discussion between the parent and child may be of great benefit, the parent admitting his own error in asserting too much authority and showing the child the mistake in appropriating other people's property. They may come to an understanding and each try to correct his error. Stealing of this kind is not uncommon in families where there is a governess in addition to the parents to supervise the child and therefore greater authority. Here also small transgressions of etiquette may assume importance so that the child has difficulty in differentiating the important values in behavior.

Closely bound up with the feeling of revenge may be the feeling on the part of the child that he has not been treated fairly, that his father can afford to give him more money and toys or allow him more privileges, and that he therefore has a right to take what he can manage to get hold of or "find." "Finding," as used by many children, means appropriating anything in sight without actually going through someone's pockets for it, though frequently they will even do this. The seriousness here, in addition to the ethical difficulty that the child feels he has a right to steal, is that he does not differentiate between his right to possess and the wrong he has done in depriving someone else.

It is important that the child should understand why his behavior is undesirable and why he must not continue appropriating what he feels he has a right to, as stealing on this basis may continue into adult life. If the child grows to adulthood, feeling that he is not treated fairly or that his salary is not proportional to the work he does, he may rebel by taking what is not his to make up for what he thinks he should have been given. The feeling that he has a right to more, that he deserves it and so can take it, should not be permitted to develop. Here the seriousness of stealing should be discussed with the child so that he will have a clear understanding.

Criminal Stealing.—The most serious form of stealing is seen in boys who are taught to steal by older individuals or members of a gang and forced to continue because of fear. The child is encouraged to believe that being caught is wrong,

but getting away with something is to be applauded. The objects taken are usually of value. The home is frequently responsible for this type of behavior and there may be vague though persistent psychic or neuropathic traits in the family history. After the child has stolen for some time without being caught it becomes difficult to convince him that his conduct is wrong and that the disadvantages of stealing are greater than the rewards. These boys often spend part of their time in reformatories and as they grow up they continue to steal by themselves or as members of gangs and often go on to criminal careers.

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CHAPTER XXXI

ANTISOCIAL BEHAVIOR (*Continued*)

Running Away. Fire-Setting. Suicidal Tendencies.

RUNNING AWAY (DROMOMANIA)

Children run away from home because of love of adventure or because the home is unpleasant. Occasionally small children and also mental defectives stray away from home and get lost. These children are not runaways and they merely require closer supervision.

The children who run away to seek excitement are adolescent or nearly adolescent. Though there are more boys than girls in this group the preponderance of males is not as striking as among the children who run away because their homes are unpleasant. Often the parents or relatives suspect that the child is planning to leave without their approval and they are frequently informed by the child of his whereabouts soon after he has left home. The departure is premeditated and often some money has been put aside in anticipation. In some instances the child wishes to help the family by finding work and earning money, he may desire more luxuries for himself or he may merely want to travel and see the world. These children often manage fairly well. There is danger, however, that they may be unable to find satisfactory employment and that they may not be willing to write home for assistance because they are ashamed to admit failure. A number of girls in this group become prostitutes.

When the child runs away because the home is unpleasant, the decision is usually made without premeditation as the result of some unpleasant episode, although the idea of leaving home may have been present for some time. The fear of disapproval at home when a bad school report is presented, or worry at school because of a threatened interview with the principal are common reasons for running away. The background for running away may be parental rejection, overauthority, parental discord, sibling rivalry, dislike of school. Occasionally spite and revenge feelings against the parents because of real or imagined injustices are the motives. The child in his fantasy sees the parents worrying as to his whereabouts, longing for him to return and only too late realizing how much they miss him and love him. Small children, below 10 years of age, often threaten to run away, but rarely do so.

The child who makes up his mind suddenly to leave home usually does not wander far. He merely rides the subway or steals a ride and when his money and food are exhausted he is often willing to return home, although he may leave again when another unpleasant situation arises or when the home becomes too distasteful. Some of these children become chronic runaways. They may steal to

stay away longer or fall into the company of undesirables. They often feel that they have been unfairly treated and are spiteful and resentful toward society. Several children may run away together and form a gang.

This group of runaways makes up a large number of delinquents. The age varies from 6 years through adolescence. Many more boys are affected than girls.

Management.—Where a child is known to be planning departure from the home because he wishes to improve his lot and perhaps that of his family, the advantages of proper preparation for work may be pointed out. The child should understand that his presence is not a burden which the parents cannot shoulder. For the child who plans to run away to seek adventure, life should be made more interesting in the home. Membership in clubs and participation in social activities may be of assistance.

A great many boys run away from home in a fit of anger. They usually remain away for several hours and then return home late at night shamefacedly. Such events are not to be looked upon seriously unless they become habitual. The child should know that he is loved and appreciated at home. Misplacement in school should be corrected. The parents should avoid an overcritical attitude. There should be no corporal punishment, nagging or shaming. The importance of courage in facing a difficult situation should be emphasized and the idea that running away is poor sportsmanship may be pointed out. Association with undesirable playmates is to be avoided.

When the child returns home, the parents should show an understanding of his motives in leaving. Teasing and shaming are useless and harmful. The child should be helped to see the uselessness of his conduct.

FIRESETTING (PYROMANIA)

Pyromania is unusual in children. It occurs almost exclusively in boys. In the series reported by Yarnell about 60 per cent of the children were between 6 and 8 years and 35 per cent between 11 and 15 years.

In children of the younger group firesetting is usually not serious. They enjoy the novelty of making fires but as soon as the flames appear they try to extinguish them and seem to derive no satisfaction from the excitement of the fire and the appearance of the fire-engines. A considerable proportion of these children show a marked learning disability (specific reading disability, visual defects, question of dominance as to handedness and eyedness). Firesetting may be a compensatory mechanism.

Firesetting in older boys is of much graver significance. Fires are planned and may have serious consequences. The boys often turn in the alarm themselves. They remain to see the fires and enjoy the noise and excitement which they have caused. Firesetters tend to go about in pairs to the exclusion of other playmates.

SUICIDE AND SUICIDAL TENDENCIES

Suicide and suicidal tendencies are uncommon during childhood and rare before 10 years. They are about twice as frequent in boys as in girls and are rela-

tively less common in Negroes than in whites. According to Kanner from 30 to 55 children under 14 years of age lose their lives annually in America by self-inflicted means. Figures collected during the later decades of the last century show that the number of suicides in children was highest in Saxony, Prussia, France, and Denmark and lowest in England, Switzerland and Italy.

The method employed for suicide by American children is most commonly fire-arms, with hanging or strangulation second in frequency. Corrosive substances, drowning, poison and cutting and piercing instruments have also been used. Jumping from windows, a method of choice among children in other countries, is not represented in American statistics.

The motive for suicide is escape from a situation which the child finds unbearable. There may be unhappiness because of the home situation, physical handicap, chronic illness, unacceptable school work, etc. In almost all instances spite also plays an important part and there is the feeling on the part of the child that the suicidal attempt will be thwarted and will lead to assurances of love and care.

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CHAPTER XXXII

DISTURBANCES ASSOCIATED WITH THE PHYSICAL STATUS

Chronic Illness. Physical Handicap. Obesity. Squint. Celiac Disease. Epilepsy. Prematurity. Diabetes.

CHRONIC ILLNESS

The chronically ill child can be greatly benefited by proper attention to his mental and emotional needs. Unless the parents make special efforts to conceal their anxiety the child is apt to become unduly apprehensive about himself and hypochondriacal. Parental overattention and oversolicitude lead to an undesirable dependency. As a result of overindulgence there may develop the demanding attitude so commonly seen in children with chronic ailments.

While the child is confined to his bed a regular daily schedule including periods of work, play and rest should be outlined by the mother or nurse and approved by the physician. The child may be expected to entertain himself for part of each day with reading, painting, clay-modelling, etc. To encourage self-dependence everything which the child may need is placed within easy reach, but a bell should be at hand so that there will be no temptation to get out of bed.

The parents should be urged to lead as normal lives as possible including interests outside the home but they should set aside some time each day to spend with the child. Visits by friends and companions should be encouraged but visitors are to be chosen with care so that they will not excite the child nor make him dissatisfied. For this purpose children who are somewhat older or younger than the patient are generally to be preferred. The child should be included in the family group whenever possible and may be expected to assume responsibilities commensurate with his physical ability. In this way he will see that he has a useful life and will feel satisfaction in accomplishment. The parents should expect just as reasonable behavior from him as from their other children. Sulkiness, anger and temper tantrums should not be condoned unless they are due to fatigue.

When the child is well enough to carry on moderately restricted activity he should understand clearly what these limitations are and should know something of the reasons for them. He may either attend school or have lessons at home and he should be expected to study and progress in proportion to the time given and the ground covered. When difficulties arise at school or in the home parents should not take his part merely because he is ill. The child must learn to accept his infirmity and make the best of it rather than use it as an excuse. It is often wise to plan the child's free time so that he will not be tempted to indulge in for-

bidden activities and will not have to refuse invitations because of his condition. The parents should be careful that he does not receive gifts for which he will have no use, such as roller skates if he may not skate, or ball and bat if he may not play out of doors. Some supervision is usually necessary as the child cannot be expected to take the responsibility for foregoing all temptations.

The excellent adjustment which many children make to chronic invalidism is adequate proof that, if approached in the proper way, the child may be expected to lead a happy and useful life. Personalities have been warped because of poor understanding of illness or deformity. The physician should make every effort to prevent this.

PHYSICAL HANDICAP

The presence of a physical handicap frequently leads to feelings of inferiority and insecurity. It threatens personality development in three ways: It interferes with the normal activities of the child, thereby leading to a feeling of frustration; it fosters an attitude of oversolicitude and overprotection on the part of the parents; it makes the child feel different from other children. Children prefer to behave like their playmates and any deviation from the usual is likely to lead to unhappiness. This has been discussed in detail elsewhere. The desire to conform does not ordinarily appear until school age but where there is a physical defect this desire may manifest itself earlier.

The parents of a child with a deformity should make every effort to keep him from feeling inferior. If possible the defect should be corrected at an early age before the child is aware of the deviation. If it is necessary to wait until a later age the child should be assured that the defect will be corrected at the proper time.

The child with an irreparable defect should be taught to face the world and to live openly with it. He may be told that this is regrettable but certainly nothing to be ashamed of, that there are other things about him which compensate, that, as it cannot be cured, it must be borne as others bear other difficulties. Occasionally, the defect may be capitalized, *e.g.*, that glasses are becoming, left-handedness is an asset in pitching and batting, a famous athlete is redheaded, etc. Furthermore in many cases the unimportance of the defect may be pointed out so that the child can rise above it, gain confidence and with this confidence either overcome the difficulty or ignore the teasing, which quickly stops when it no longer hurts.

The parents should avoid a show of pity. The child may be expected to lead a life which is as nearly normal as is possible within the limits of his handicap. He should not be excused from his duties and responsibilities. On the other hand, the tendency of some parents to overcompensate for the child's deformity and to insist on activities beyond his ability should be discouraged.

OBESITY

The obese child has long been considered the placid, good-tempered, satisfied child. This does not apply to all obese children. Bruch found that, in general,

they were immature, overprotected and often spoiled by their parents. In most instances the homes lacked security, the mother insisting upon feeding her family well as a means of "combating anxiety." Frequently at least one other member of the family was obese. The family appeared to be a closely knit unit with few friends and little social interest. Grandparents often lived in the child's home. Most often the obese child was an only child (35 per cent of Bruch's cases) but even where there were other children this child was more closely protected by the parents. He was often dressed and bathed by the mother, fed or urged to eat although his appetite was good, accompanied to school and, because of parental anxiety, allowed little contact with other children and a very limited amount of physical activity. The parent was rarely concerned with the obesity of the child but was anxious to be assured that sexual development of the boy was normal.

SQUINT

The cross-eyed child suffers because he feels himself to be different from other children and because of the teasing to which he is apt to be subjected. His personality is affected by this as by other more severe physical defects. He may withdraw within himself and become shy and unhappy or he may react with aggressiveness, pugnacity and a determination to prove that he is as good as his fellows. School work may be difficult where an associated visual defect is present. There may be eyestrain, headache and irritability. Reading difficulties are frequent due to poor fusion.

The cause of the squint should be investigated and corrected as early as possible. Infants of one year will often accept glasses readily since they quickly learn that vision is improved thereby. Since many people wear glasses most children will accept them without any feeling of inferiority. In instances where the child is self-conscious he should be reassured that he will outgrow the need of glasses, that they are becoming to him, etc. Orthoptic training is beneficial in many instances of squint.

CELIAC DISEASE

The child with celiac disease is apt to be fretful, irritable, whiny and negativistic. He is easily fatigued and not nearly as active as the normal child. Many exhibit useless movements such as turning over and over in the bed, head-banging, rocking and grinding of the teeth. Sleep is restless and disturbed by night-terrors. If celiac disease develops during infancy there is usually retardation in walking and talking and the child is often wrongly considered to be mentally retarded. Older children, because of their small size and their constant association with adults, may appear precocious.

EPILEPSY

Personality disturbances develop frequently in epileptic children. They may become irritable and quarrel with their playmates. They are often selfish, unrea-

sonable and dictatorial and, when thwarted, indulge in temper tantrums. School behavior is unsatisfactory, and restlessness, inability to concentrate and periods of mental confusion are frequent. These symptoms are apt to be particularly prominent for a day or two preceding an attack.

Fear and apprehension lest an attack occur in some public place is common. This, together with the ridicule of playmates, may lead to withdrawal from the group with consequent lack of companionship or to a compensatory aggressiveness, pugnacity, and stubborn determination.

The parents of epileptic children are apt to be overanxious, oversolicitous and overprotecting. In an effort to avoid the child's becoming disturbed and excited, they dispense with the usual methods of training and accede to his every wish and whim. In many instances they are ashamed of his ailment and they consequently isolate him from school and playmates. In certain communities the epileptic child is not permitted to attend school but is taught at home by a teacher provided by the department of education. He is kept at home where he is bored and uninterested and he is not allowed to participate in games and sports lest he injure himself.

Electroencephalographic studies indicate that subclinical attacks, characterized by personality changes, occur not infrequently in the intervals between seizures. There may also be psychomotor attacks during which the child, acting as though in a dream, does severe injury to himself or others which is wrongly interpreted as conscious or intentional.

Pyknolepsy is a closely related condition. It is characterized by frequent, momentary attacks during which the child stops whatever he is doing, makes a few aimless movements and then proceeds as though nothing had happened. There may be fifty or more attacks in the course of a single day. The child does not fall or injure himself during a seizure nor does he wet or soil himself. Attacks are readily induced by hyperpnea. There are ordinarily no major attacks and behavior in the intervals is quite normal. The changes in the electroencephalogram are identical with those in petit mal. The condition is unaffected by the usual anti-epileptic drugs. The prognosis is good, the attacks ceasing during adolescence. The electroencephalogram returns to normal several months after the seizures cease.

Management. The epileptic child should be allowed a moderate amount of freedom and should be encouraged to participate in games. Seizures rarely occur during physical activity and there is often some warning preceding an attack. Furthermore constant supervision may create more serious problems in the child than the physical injury which the parent hopes to prevent. Companionship should be encouraged and the child should attend school or have formal instruction at home. Parents should avoid a show of alarm at the convulsions. In this way the child will be helped to face them in a calmer manner.

PREMATURITY

In comparing the growth and development of prematurely born and full-term infants correction should be made for the period of prematurity. This is of

minor importance in older children but it is of great significance during infancy.

Eruption of the deciduous teeth takes place at the usual age. Walking is begun somewhat later than in full-term infants but there is no retardation if correction is made for the period of prematurity. Speech develops at the usual age which makes the prematurely born infant somewhat precocious when account is taken of the prematurity. Speech defects, especially stuttering, are fairly common.

Prematurely born infants are slightly delayed in bowel and bladder training and this is particularly true in the case of small infants but the difference is minimal if proper correction for the time of prematurity is made.

A number of peculiar gestures and mannerisms have been repeatedly observed in the prematurely born, such as flapping of the hands and hiding the head on the mother's shoulders. They also seem to be hypersensitive to sound. They are more fearful and more dependent on their mothers. Thumb-sucking is almost twice as common as in full-term infants and enuresis is somewhat more frequent. Temper manifestations such as stamping, screaming, banging, kicking, biting, seem to be encountered more frequently than in their siblings.

When infants with intracranial injury are excluded the mental development of prematurely born children has been found to differ in no essential respect from that of full-term children if the amount of prematurity is taken into account during the first year or two. The large majority who are of school age have a school placement in keeping with their chronologic and mental ages, and an intelligence indistinguishable from that of full-term children of the same age.

In the study of prematures, twins should form a separate group as usually they appear to be farther advanced in intelligence and physical development for their birth weight than the majority of prematurely born infants.

DIABETES

There is a fairly large literature on the psychologic attributes of the diabetic child. The average intelligence does not differ materially from that of the general population and the school performance and behavior compare favorably with that of their siblings despite poorer attendance. The only significant personality changes noted in the study made by Brown were increased irritability, excitability and easy fatigability. The teachers commented on the carefulness, meticulousness, earnestness and conscientiousness of the diabetic children. The earlier the age at which the disease appears, the better the emotional acceptance and adjustment. As a rule diabetic children do not expect special consideration and are not sensitive about their condition. Thefts of food occur occasionally but stealing of other objects is not a special problem.

Dwarfing is observed in about 10 per cent of diabetic children. The body proportions are infantile and the psyche remains childlike. The intelligence does not vary significantly from that of other diabetic children.

Diabetic children should lead a normal life as far as possible with regular hours for sleep, work and play. Both parents and patient should be helped to face the situation without anxiety or shame. Most children over 10 or 11 years can administer insulin themselves and test the urine for sugar. They should

understand the need for care. In general, diabetic children may be expected to achieve success in school commensurate with their intelligence. In the choice of a vocation care should be taken to avoid occupations where the insulin reaction would result in harm to the patient or to others.

Marriage is not to be discouraged but pregnancy should not be undertaken lightly. Because of the possibility of transmitting the disease the marital partner and his family should be free from diabetes.

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CHAPTER XXXIII

PSYCHOLOGIC CARE DURING INFANCY

Prenatal Advice, Preparation of Parents for the Birth of the Baby, Preparation of Siblings, Breast Feeding. The Newborn, Anxiety, Clothing, Loud Sounds, Crib, Rocking, Status of Father, Breast Feeding, Bottle Feeding. Early Infancy, Accessory Foods, Mental Development. Training. Size of Family. Prophylactic Inoculations.

In discussing practical phases of the psychologic care of the infant, it is convenient to proceed chronologically and we may, therefore, begin with the preparation of the parents for the birth of the child.

PRENATAL ADVICE

Preparation of Parents for Birth of the Baby.—The future attitudes of the parents can often be predicted. Where the parents are middle aged and have waited many years before having a child, they are likely to be overaffectionate, overanxious and overprotecting. A similar situation will probably be present in families where a previous child has died or has been very sick during infancy.

In contrast is the expectation of a child to young parents, married for only a short time, who are unwilling to give up their freedom and unwilling to make the sacrifices necessitated by parenthood. Such parents are apt to be indifferent or actually rejecting toward the child.

It is not always so easy to make an estimate of the parental attitudes, but, if an attempt is made, it is usually possible to get a fairly good idea. A useful rule is that where conception has not been desired and planned, the child is much more likely to be rejected than when he was wanted. This is not invariably the case and in many instances the parents come to appreciate the helplessness and attractiveness of the little baby and accept him. Much can be done to modify undesirable parental attitudes during gestation, particularly where rejection is anticipated.

A point worth discussing with certain parents is the *expected sex of the child.* Parental fixation on the sex of the child before birth is not infrequently encountered and this may persist after birth and have undesirable effects.

Many expectant mothers take advantage of their condition during pregnancy to make excessive demands on their husbands. This is often done unconsciously. A word of advice to the prospective mother to be less demanding and to the father to be more considerate will often help to smooth over a situation which has possibilities for interparental disharmony.

Where there is *a previous child in the family* he should be prepared for the

new arrival. If it will be necessary for the older child to give up his room or his crib to the new baby, the transfer should be made, whenever possible, several weeks before the birth of the new baby, so that there will be no resentment toward the infant because of his deprivation. The child, if he is old enough to understand, should be told from time to time that another baby is coming so as to avoid confronting him with an unexpected situation. He should also know that his mother is going to have to leave home for some time in order to have the baby and that it will be necessary for her to spend a considerable amount of time with the new infant because of his helplessness. The advantages of being older and more grown-up should be stressed.

The advantages and desirability of *breast feeding* should be discussed with the mother as suggested in Chapter XVIII. In many instances she is already anxious to nurse her baby. The likelihood of rejection in a mother who nurses her infant is less than in one who feeds her baby from a bottle.

THE NEWBORN

Since young parents tend to be fearful and confused, the first task of the pediatrician is to *allay anxiety*. The simplicity of the duties associated with the care of a young child should be emphasized and natural attitudes encouraged. A great many mothers of first-born infants have never held a baby in their arms and they need, therefore, to be instructed. Clinical experience indicates that young infants prefer to be held snugly and firmly. They appear to enjoy the warmth and security obtained in this way. Holding the infant loosely apparently does not give the support which is needed.

A question which may have some practical significance in relation to crying in young infants is the *type of clothing* used. It was formerly customary to wrap newborn babies snugly, but within recent years loose clothing has been adopted to allow freedom of movement. During prenatal life the fetus is packed tightly in the uterus and movement is restricted. It is possible that tight clothing is preferable during the early weeks of postnatal life so that the transition from the prenatal environment may be a gradual one. Furthermore snug clothing may offer better support against abrupt change of position and this is worth keeping in mind in relation to individual young infants who seem uncomfortable and cry excessively.

Since *loud sounds* and *abrupt changes in position* give rise to unpleasant sensations and lead to crying, they should be avoided. The infant's room should be quiet and sufficiently far from the telephone and the clatter of kitchen activities, but strict silence is not necessary and may be undesirable since a certain amount of sound may be stimulating. Handling of the infant should be gentle and all changes in position should be made with care so as to avoid the disagreeableness of loss of balance.

The *crib* should face toward the center of the room with the head elevated and the sides free of obstruction so that the infant may enjoy the stimulus of seeing moving objects during his waking moments.

Though *rocking* is one of the most effective methods of soothing the infant,

the cradle has disappeared from the American nursery. Baby carriages, however, are equipped with springs and mothers still rock babies in their arms.

The discard of the cradle has been discussed by Zahorsky. At the outset he concedes that rocking is unnecessary but he considers this irrevelant since many of the diversions of childhood (and adulthood) which are very pleasant are unnecessary. Playing with the baby and amusing him are unnecessary as are toys. Babies learn to adjust themselves to neglect, if it is not too severe. There is no reason to believe that rocking will become a habit any more than sucking on the breast or the bottle, nor does Zahorsky believe that rocking leads to spoiling. As benefits of rocking, he suggests, in addition to its pleasurable effect, a soporific effect and a favorable influence on intestinal digestion and probably absorption as a result of the movement of the baby. If it is true that stimuli which elicit pleasurable responses are desirable within limits, then it seems reasonable that the cradle or a substitute is a proper adjunct to the nursery.

The *status of the father* during the newborn period is worthy of the pediatrician's attention. During the early weeks of postnatal life the father may feel useless and neglected. The wife may use her position as mother to demand more attention from her husband, or even as a spite mechanism. Normally an adjustment to this situation is readily made but it may persist and become the basis for a parent-child antagonism. This is more likely to take place when the first-born is a male and when the parents are young and only recently married. A few sympathetic words by the pediatrician "as father to father" urging patience during a period of adjustment; and caution to the mother not to forget that she has a husband who merits some of her attention is usually adequate for normal, understanding parents.

Whenever possible, the father should be included in discussions and he should be urged to hold and feed the baby. Crying on the approach of the father is not uncommon and is ordinarily due to the lack of gentleness which the infant has grown to expect. The child is frightened by the noisy greeting, the tossing about and the vigorous hugging. It is, however, not to be expected nor to be desired that the father play with the child in exactly the same way as the mother. The different approach of the father gives the child a variety of experience which is highly beneficial.

Handling of the young infant can be facilitated if the physician avoids situations which call forth unpleasant responses. Thus loud noises such as rattling the weights on the scale or drawing out the measuring tape, abrupt movements, or a momentary loss of support while placing the child on the weighing pan are likely to cause crying. Similarly, attempts on the part of the mother or nurse to restrain the child in order to facilitate examination defeat the purpose for which they are intended and usually lead to crying. Covering the examining table with a soft, thick pad (latex is very useful for this purpose) which will lessen the tendency of the child to roll from side to side and lose his balance, is useful.

The question of *breast-feeding* should be discussed and the advantages enumerated. In the case of defective infants, *e.g.*, mongolian idiocy, congenital heart disease, spina bifida, the mother should be advised against breast-feeding in order to avoid too close a tie between her and the child.

With women employed away from home special efforts should be made to induce breast feeding, even if only for a few weeks. There is greater likelihood that a mother who has nursed her infant, absorbing and time-consuming though her work may be, will find time for her baby than in the case of the non-nursing mother. In situations where the infant is turned over to a nurse, the mother should be expected to give the infant at least one bottle feeding each day.

Bottle Feeding.—The personality of the mother should be considered in giving advice regarding feeding schedules. Overanxious and overconscientious mothers should be assured that reasonable regularity is all that is necessary and that the amount taken by the baby at different feedings will vary. The easy going mother, on the other hand, should have the importance of a regular routine emphasized.

EARLY INFANCY

Accessory Foods.—All new foods (and medicines) should be given to the child with a pleasant expression. At 3 months or even earlier infants are responsive to the facial expression of their attendants. They smile when smiled at and it is reasonable to suppose that their smiles are accompanied by a pleasurable emotion. The parents' subjective attitude of dislike may cause the infant to acquire a distaste for a particular food.

The parents should understand that no particular food except perhaps milk is essential for the infant, and should be warned against being too insistent or agitated when feeding the child. The proper handling of early feeding problems is probably the most important measure in preventing subsequent anorexia.

Mental Development.—The diagnosis of mental retardation during infancy should be made with caution except where associated with obvious physical defects such as mongolism, cretinism, etc. In suspected infants, lesions of the motor apparatus should be carefully eliminated. Infants (and children) with lesions of the basilar ganglia are frequently labeled as mentally defective although many of them have normal mentalities. Infants with well-marked hydrocephalus may entirely outgrow delay in mental development and infants with congenital spastic diplegia sometimes show surprisingly good mentality later on. Neglected infants are usually retarded in mental development but they may develop normally if placed in a stimulating environment. In addition there are occasional infants who are definitely delayed in mental and motor development during infancy and in whom none of the conditions just named are present, yet they mature to be normal or even superior children.

TRAINING

The most important principle in all training procedures is proper timing. The optimal time to train a child is when he is developmentally ready to be trained. The best indicator of the proper time is the child's desire to be trained. Chronological age is only of general value; reliance must be placed on clinical observation. Thus the time to train a child to hold his cup is when he begins to make efforts to support it; and the time to train a child for bladder control

is when he starts to indicate an awareness of the discomfort of bladder distention.

Premature efforts at training are to be discouraged. The parental effort is necessarily greater, the chances for success are smaller and the child quickly becomes aware of parental disappointment and disapproval. One must also avoid waiting too long before training the child. At present the tendency is to train too early for bowel and bladder regulation and to delay too long training in other technics of self-dependence.

A certain degree of motor coordination is implied in the concept of developmental readiness. Before a child can be considered ready to be trained he must be capable of taking some responsibility for the act for which he is being trained. This does not imply the ability to put aside other interests voluntarily as this degree of responsibility only appears much later.

Training procedures must necessarily be modified in the case of mentally retarded infants. One must wait longer before starting and the time required to get results is longer. However, moderately retarded children can usually be trained without great difficulty if the parents are patient.

SIZE OF FAMILY

Some time toward the end of the first year the advisability of having more children should be discussed with the parents. The objections raised are two: First, economic, and second, that the world, as at present constituted, is not a fit place into which to bring more children. It is interesting to note that fathers object more strenuously than mothers.

The points which may be used in favor of more children are: (1) That in families where there are several children, the child learns in the home the give and take necessary for proper personality development; (2) that it is undesirable for the parents to have their entire future centered about one child; (3) that the family group is the essential unit in a democratic society. The siblings, in adulthood, can assist one another in times of misfortune thus acting as a buffer against adversity.

PROPHYLACTIC INOCULATIONS

The undesirable conditioning against the office and physician which often follows the administration of the prophylactic inoculations can be prevented sometimes if the mother will lift the infant in her arms and hold him close to her immediately after the injection is given.

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CHAPTER XXXIV

HOSPITAL CARE

The Newborn. Young Infants. Older Infants. Older Children. Surgical Operations.

NEWBORNS

There is under way throughout the country a rapid trend toward hospital rather than home deliveries. In New York City almost 90 per cent of all births took place in hospitals during 1937 against 62 per cent in 1929, an increase of almost 50 per cent in less than 10 years. The hospital obviously offers certain advantages to mother, baby and obstetrician. Equipment for handling emergencies is at hand and assistance can be readily obtained if necessary. There are, however, well known disadvantages to the baby in the danger of epidemic diarrhea and impetigo. Probably the greatest drawback in hospital care is the separation of baby and mother commonly practiced in American obstetrical hospitals. Relegation of the baby to a nursery is by no means universal hospital practice. In most of the best equipped continental hospitals the infant is kept in a crib at the foot of the mother's bed. Having a newborn in a ward with several other mothers and babies is far from an ideal arrangement but it may be preferable to the American system.

Separation of mother and baby immediately after birth is unnatural and unphysiologic. Among mammals it is the rule that the young remain close to the mother during early life, snuggling and cuddling against her. The mother and her young constitute a biologic unit and to separate the two in the way commonly practiced in American hospitals finds no analogy in the animal world where so much of our knowledge on nutrition and other aspects of physiology has been obtained. How contact with the mother benefits the newborn is not clear but the universality of this behavior in the animal world suggests that it has biologic value. It may, among other things, be a factor in the ability of the mother to nurse.

Grulee points out other disadvantages in having newborns in hospitals, namely, the tendency to overemphasize the importance of crying and weight loss and the consequent resort to bottle feeding under circumstances which do not justify its use. Since taking milk from a bottle is so much easier, the infant refuses to suck on the breast thereby curtailing the most important mechanism for stimulating breast secretion.

YOUNG INFANTS

Infants are necessarily difficult to care for in hospitals. During the early months of life they are entirely dependent on their environment for the gratification of their needs, physical as well as psychologic. They are unable to indicate satisfactorily when they are hungry and when they have had too much and it is hardly possible for the nurses to understand the idiosyncrasies of the individual infant on short acquaintance. Furthermore the method of prescribing food lacks the flexibility which is possible in the home. Rigid orders for feeding are given and there is no mechanism by which the infant can have more of his formula at one feeding when he is hungry and less at another when he is satisfied. Food refused at one feeding cannot be made up at another.

Of major significance for the infant is the emotional deprivation in the hospital yet no systematic approach to this problem is being made. Unlike the older child or the adult who can fill his lonely hours with memories of the past and plans for the future, the infant has no mental or emotional resources within himself on which he can draw. All stimulation must come from without yet there is little or none forthcoming in the hospital. Indeed, proper isolation against infection requires that manipulations be limited to those necessary for physical care.

Cross infections, mainly of the nose and throat, are certainly frequent in infants' wards and, though mild in themselves, they may have disastrous results in that the infants stop eating, sometimes vomit and develop diarrhea, lose weight and eventually die. For the prevention of cross infections, isolation is the principal effective measure. Consequently, infants in hospitals are handled only when necessary and parents are excluded as much as possible. A completely enclosed glass case for the baby has been recently introduced, supplied with inlet and outlet valves and sleeve arrangements for the nurse. The infant is placed in this box and can be taken care of almost untouched by human hands.

The effect of residence in a hospital manifests itself by a fairly well-defined clinical picture. A striking feature is the failure to gain properly, despite the ingestion of diets which are entirely adequate for growth in the home. Infants in hospitals sleep less than others and they rarely smile or babble spontaneously. They are listless and apathetic and look unhappy. The appetite is indifferent and food is accepted without enthusiasm. The stools tend to be frequent and, in sharp contrast with infants cared for in the home, it is unusual for 24 hours to pass without an evacuation. Respiratory infections which last only a day or two in the home are prolonged and may persist for weeks or months. Return to the home results in defervescence within a few days and a prompt and striking gain in weight.

An attempt should be made to humanize the care of infants in hospitals. Mothering and cuddling should be as much a part of nursing care as bathing and dressing. Nurses and internes should be encouraged to pick up and play with the babies during their free moments. Infants who must remain in the hospital for prolonged periods should be assigned to particular nurses or internes for their special care. Parents should be permitted to visit their infants as often

as is compatible with ward routine and should be encouraged to hold and fondle them. When some painful procedure is carried out, such as venipuncture, the infant should be held in the nurse's arms for a few moments afterward and should be comforted and reassured. Infants, before they are able to eat by themselves, should be held in the nurse's arm during feeding, duplicating the position used during breast feeding. Crying infants should receive the same sort of attention as in the home. An effort should be made to discover the reason for the crying and to correct it.

Infants with eczema require more manipulation than others since, when left by themselves, they scratch more.

Infants should be kept outdoors as much as possible. They have better color, they eat and sleep better, they seem more contented. The mechanisms which make outdoor treatment beneficial are complex and are probably dependent on psychologic as well as physical factors.

OLDER INFANTS

The hospital history of older infants should include information about training procedures which have been attempted and which have been successful. If the infants are to remain in the hospital for a prolonged period, training is necessary just as in the home. The history should also contain information about habits such as finger-sucking and these should be discussed with the parents.

Whiny, unhappy infants need treatment. They require a great deal of affection and reassurance and, if encouraged, they frequently fix their interest on some person on the ward. Their demanding attitude often antagonizes the ward personnel and they are consequently ignored while the happy, pleasant child, who needs no extra affection, gets a great deal of it. It is therefore advisable to assign unhappy infants to particular nurses or internes for special care.

Often the unhappy baby at first resents the advances of the ward personnel and pushes away all who try to approach him. This negativistic phase is short-lived and, if he is allowed a 2- or 3-day period during which he is treated pleasantly but rather casually, a more personal approach can be begun. The results obtained by giving these children affection and attention are excellent and within the short space of a week or 2 a definite and striking improvement in behavior can be expected.

OLDER CHILDREN

Children are usually happier when they can see other children about them. Therefore a ward in a hospital is preferable to a private room. They learn much through imitation and their behavior is apt to be patterned after that of the other children. They should be expected to take certain responsibilities commensurate with their age and health, to feed themselves, ask for the bed pan, not to jump about, to be quiet when being examined, etc. They should understand that there is a routine in the hospital into which they must fit. Young children should be provided with entertainment in the form of picture books,

crayons, beads for stringing. They should have the opportunity for conversation.

School age children do better when they understand what is going on about them. They should therefore receive some information about their illnesses and what treatment to expect. Their questions should be answered sympathetically. Great care is necessary in discussing the child's illness in his presence. Children understand much more than is appreciated and they easily become apprehensive.

With the convalescent or the chronically ill child time should be allotted for both work and play. Since the major concern of most school-age children is that they are falling behind in school work, it is wise to have them attend the hospital school or to have bedside teaching. If teachers are not available the mother or nurse may be able to follow the school assignment and see that the lessons are studied. Suitable books should be available for reading and various types of handiwork can be taught such as knitting, basket-weaving and bandage rolling for girls and rug-making, leather work and simple carpentry for boys. On special occasions or holidays there should be celebrations or parties of a simple sort. These help greatly to make the hospital stay less tiresome.

Surgical operations are often emotionally upsetting to the child. He may react with aggression and anger against those responsible for his condition or he may respond with fear. In the first instance he will resist examination by a physician, refuse to take medication or to visit a hospital. In the second instance, he is apt to be fearful, restless and irritable. In a considerable proportion of the children with anxiety neuroses studied by Langford, the symptoms dated back to an operation for tonsillectomy. In some instances the relation of the anesthetic and the operation to the anxiety state may have been lost sight of since the operation may have taken place some months before.

Older children will be less apprehensive if they are told what sort of operation to expect and a little about anatomy. They should know what to anticipate in the hospital and how they will be expected to act. Questions should be readily answered and the child should be reassured as to the outcome of his operation and his ability to be up and about and well soon. Sometimes it is necessary to explain to the child that he will not lose any vital part at operation and that his appearance will remain unchanged. The knowledge that the anesthetic will put him to sleep during the operation so that he will feel no pain is very reassuring.

In occasional instances, where the home situation is difficult and the discipline severe, the child may have the idea that removal from the home is going to be permanent and that the operation is a form of punishment. The parents may have threatened him with the hospital or doctor when he misbehaved. Under these circumstances the child is naturally excessively fearful. Overprotected children are more affected by the separation from the parents than other children. With overanxious parents the child's fear may be intensified by the parents' apprehension and agitation.

After operation the child should be encouraged to talk freely in order to relieve himself of his anxiety. In some instances opportunities must be provided and the physician will have to lead up to the subject and discuss the operation because the child is unable to admit his fear or discuss his problem without help.

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