

ADOLESCENT EDUCATION



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ADOLESCENT EDUCATION

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Everyday Psychology for Teachers

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TO THE MEMORY
OF
G. STANLEY HALL

One of America's foremost psychologists, pioneer thinker, educational prophet, great teacher, true friend, who saw in the youth of to-morrow the hope of a better civilization, this book is affectionately inscribed

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PREFACE

The past two decades have witnessed a growing interest in secondary education, not in the United States alone but throughout the world. Accompanying it there has developed a revived concern with child study and genetic psychology. The attention given to such questions as pre-school education, problem children, the youth movement, extracurricular activities, and pupil adjustment attest this renewed interest in the more scientific education of the child. The time seems ripe, therefore, for the writing of books in the secondary education field that are definitely based upon a scientific knowledge of the adolescent. Many books have been written that deal with school organization, but few writers have attempted an analysis of adolescent traits and their development. A scientific adjustment of education to adolescent needs can be made only when the dominant traits of the period of adolescence are known. The present study makes such a survey. It also suggests educational procedures in harmony with the unfolding nature of youth.

This book is the product of the interaction of many minds working together upon the problems involved in the survey. The reactions of thousands of students, with whom all of these problems have been discussed, have largely determined the selection of topics and the method of treatment. This will account to some degree for the concreteness and fullness of the illustrations.

My obligations are numerous. Every page bears witness to my indebtedness to other investigators for facts and to publishers for permission to weave into the work the material germane to this study.

FREDERICK E. BOLTON

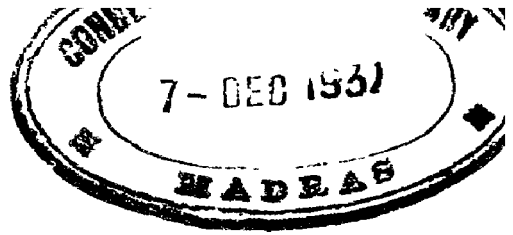


TABLE OF CONTENTS

CHAPTER

PAGE

I. A NEW ERA IN ADOLESCENT EDUCATION

1. New demands for education: the modern crusaders. 2. The recency of the development of secondary education in America: the beginnings of public secondary education; remarkable development since 1890. 3. Psychological significance of education during adolescence: formative period of character; pre-school period contrasted; profound changes in adolescence. 4. Paramount importance of child welfare: conservation and improvement of child life; educational adjustment starts with the child. 5. Objectives of this book.

II. THE STAGE OF PREADOLESCENCE 1

1. A significant but not well understood period: the years included; importance of knowledge of the preadolescent; plan of this chapter. 2. Physical and physiological characteristics: significant physical growth phenomena; decreased rate of preadolescent growth; in height and weight; digestive equilibrium; the circulatory system; brain and nervous system; general diminished rate of physical growth. 3. Preadolescence a sensory-motor period: establishment of coördinations. 4. General characteristics of preadolescent mental life: sense perception dominant. 5. Characteristics of selected abilities: preadolescent memory; preadolescent thinking; emotional and social attitudes; moral attitudes in preadolescence. 6. Characterization in literature. 7. Preadolescent education adjusted to the foregoing characteristics: key to educational procedure; fundamental types of learning suited to preadolescence. 8. Objectives in some subjects in the elementary school: plan of treatment; reading; spelling; arithmetic; music; foreign languages; geography, a great world panorama; history, the drama of the past; civics and citizenship.

CONTENTS

CHAPTER	PAGE
III. RECOGNITION OF THE PERIOD OF ADOLESCENCE . .	46
1. Meaning of adolescence and period included. 2. Recognition throughout history: tribal ceremonies; the far east; recognition by the ancient Greeks; Roman recognition of adolescence; ceremonials and observances at the present time. 3. Tardy recognition as an educational factor: treatment in the home; recognition by educators; G. Stanley Hall launches a new movement.	
IV. ANATOMICAL AND PHYSIOLOGICAL DEVELOPMENT DURING ADOLESCENCE	56
1. Plan and purpose of the chapter. 2. Adolescent changes in growth: general recognition of acceleration; changes in height and weight; individual growth curves; continued records of groups needed; development of the heart and arteries; muscular development; ergographic tests; development of the brain; interests conditioned by brain development; changes in bodily proportions; danger of adolescent overstrain; development of sex characteristics at adolescence; physiological age.	
V. ACCELERATED ADOLESCENT GROWTH	76
1. The problem stated: a debated question; diverse opinions quoted; conclusions from general observation. 2. Some analogies of growth in plant and animal life. 3. Growth not uniform at different stages. 4. Marked physical and physiological accelerations at adolescence: striking physical and physiological changes. 5. Marked mental reorganization: changes in intellectual growth; adolescent emotional changes; mental pathological conditions emphasize the foregoing; unintentional corroboration by opponents; concluding evaluation. 6. School adjustments necessary to minister to adolescent changes.	
VI. ADOLESCENCE IN RELATION TO DISEASE	101
1. Meaning and causes of disease: meaning of disease—disproportion; cause of much adolescent morbidity. 2. Developmental diseases of adolescence: meaning of a developmental diseases; typical developmental diseases of adoles-	

CONTENTS

xi

CHAPTER	PAGE
cence; diseases of the circulatory system; the inroads of tuberculosis; typhoid fever; eye defects; nervous diseases psycho-neural disturbances; most disease unnecessary, health normal.	
VII. MENTAL LIFE OF ADOLESCENTS	119
1. General characteristics: purposes of this chapter; faith in their future success; Hall's flapper <i>Americana novissima</i> ; enlarged mental horizon. 2. Instincts and mental unfoldment: adolescence not a time for formal drill; maturity of all powers attained; dominance of physical. 3. Some special characteristics: continued interest in concrete; scientific and philosophical awakening; adolescent emotional characteristics; growing self direction; enlarging social traits; altruistic and religious awakening. 4. Some special phases of adolescent psychology.	
VIII. ADOLESCENT IMITATION	136
1. Meaning of imitation: popular meaning; scientific meaning of imitation. 2. Imitation of different ages: imitation of children and adolescents compared; illustrations of adolescent imitation; study habits; cheating in examinations; political ideals; religious ideals; hardened attitude; adolescent language; manners and customs. 3. Educational value of imitation: imitation in morality.	
IX. ADOLESCENT IMAGINATION	156
1. Meaning of imagination: relation of imagination to first-hand experience. 2. Imagination at different levels: differences between the imagination of children and of adolescents; adolescence and creative imagination. 3. Cultivation and uses of imagination. 4. "The young man shall dream dreams."	
X. ADOLESCENT ATTITUDES AND EMOTIONS	175
1. Importance of emotional education: significance of what a boy loves; education over intellectual; instinctive basis of interests. 2. The emotional life of childhood: the child is anti-social. 3. Adolescent characteristics: changing interests at adolescence. 4. Emotions and education: youth's genuine interest in school; adolescent interests in	

CHAPTER

PAGE

reading. 5. Growth of altruism in adolescence: interest in social and civic welfare; altruism in school activities. 6. Adolescent sex-instincts: dominance of sex development; sex interests basis of home-making and altruism. 7. Counter influences: debasing influences on news-stands and in movies. 8. The Lange-James theory of the emotions. 9. Education applications of the Lange-James theory

XI. ADOLESCENT INTELLIGENCE..... 203

1. The meaning of intelligence: various definitions; tests reveal acquired information, not native ability. 2. The distribution of intelligence scores: classification on the basis of I.Q.'s; distribution of I.Q.'s of first year high-school pupils; distribution of Army Alpha scores of high-school pupils. 3. The correlation of intelligence scores with scholastic achievement marks: the relation of I.Q. to achievement; various intelligence scores and achievement marks. 4. Correlation between achievement marks in lower schools and higher. 5. Correlation between intelligence scores and success in college: tabular resumé by Symonds; general interest in problems of intelligence; investigations by Colvin and McPhail; investigation by Roberts and Bolton; application of the intelligence test. 6. New reliance upon teachers' marks: Starch and Elliott discount reliability; many studies emphasize reliability of teachers' marks; Bolton's investigation in Seattle. 7. Limitations of intelligence tests; widespread belief in tests; growing recognition of limitations. 8. Who should go to high school and to college? Tendency toward social stratification; European education aristocratic; American alarmists cry over-education. 9. Is the intelligence of high-school pupils becoming lower? number of low grade overestimated.

XII. ADOLESCENT MENTAL DEVIATION AND EDUCATION..... 250

1. Meaning of mental deviation: purpose of the chapter; misconceptions regarding insanity; tentative definition of insanity; why consider insanity in relation to education? 2. Prevalence of insanity, feeble-mindedness, and epilepsy:

CONTENTS

xiii

CHAPTER

PAGE

statistics of mental deviation inadequate; prevalence of feeble-mindedness; relation of the school to insanity. 3. Types of insanity and their causes: pathological and functional insanity; some characteristics of insanity; mental deviation and glandular conditions; adolescence and insanity; physical causes of insanity; some functional causes of insanity; importance of recognition; superstitions and stories in the home; children's sorrows; suppressed emotions; the school's contribution to mental aberration; unsympathetic teachers; failure complexes. 4. What the school can do to prevent insanity: regularity of tasks; prevention of failures; wholesome thoughts; happiness an antidote; the value of sympathy; develop "success complexes."

XIII. YOUTH AND CRIME 271

1. The problem stated: appalling amount of crime—preliminary; who are the lawbreakers? meaning of crime and delinquency. 2. The extent of crime: testimony of statistical experts; the story of our national dishonor; from the Salvation Army; the daily chronicle. 3. Heridity and crime: popular belief; scientific meaning of the born criminal. 4. Youth the age of beginning crime: projecting the future; recent United States statistics; the juvenile groups; earlier evidences; expressions relating to a century ago; Illinois, 1880; France, 1880; Italy, 1886; Germany, 1892; Comparative figures, 1900; Morrison's belief, 1900; Iowa, 1903; Hall's interpretation, 1904; statistics by Travis, 1908; current beliefs. 5. The intelligence of criminals: the popular notion; changed belief through scientific measurements; Murchison's classical study, 1921. 6. Causes of youthful delinquency: mental expansion—indirect cause; desire for fun; the spirit of adventure; faulty home life; parental standards often low; lack of play opportunities in congested cities; better play facilities being provided; effect of city life; illiteracy; truancy; sex perversions and crime; influence of ductless glands exaggerated; crime often due to mental unbalance; crime prevention through worthy ideals; in summary. 7. Why such wholesale crime waves? organized gangs and racketeers; police and Criminal Organizations; methods of selecting juries; legal tricks in se-

CHAPTER	PAGE
curing one-way sympathy; crimes committed by public officials; popular apathy toward punishment for crime; escape through legal technicalities; other causes; thoughtful people aroused.	
XIV. MINISTRATION TO INDIVIDUAL DIFFERENCES...	334
1. Prevalence of individual differences: scope of this chapter; illustrations of variations; variations in mental characteristics. 2. Causes of individual differences: different abilities due to heredity; achievement and environment. 3. Distribution of differences: bases of determining variations; the normal frequency curve; age-grade tables. 4. Some concrete cases of adolescent individualities. 5. Dangers in over-standardization: variations desirable; uniformity foe to education. 6. Opportunities for individual instruction: are bright pupils retarded by slower? ability grouping; advantages of homogeneous classification; disadvantages of ability grouping; special schools for the retarded and handicapped; special schools for gifted children; the Dalton Plan; the Pueblo Plan; different numbers of subjects; promotion by subjects; subjects in different grades simultaneously; flexible assignments; adapted recitation questions; use of the project; adjustment through extracurricular activities; avoid over-standardization of content and examinations.	
XV. SOME PARAMOUNT OBJECTIVES OF SECONDARY EDUCATION.....	374
1. Relation of this chapter to preceding: relation to junior high school; adolescent development and educational needs; trend toward European secondary school organization; all should be in school to full maturity; why pupils drop out of school. 2. Objectives of the high-school curriculum: general objectives; should be adapted to capacities and interests; variety and flexibility necessary; elective system a psychological necessity; should represent community needs; physical development fundamental; interest in practical arts and industries; foreign languages should not be required; literature, history and social sciences; sciences in the high school. 3. Objectives of secondary education as a whole: attracting and holding power should be increased;	

CONTENTS

XV

CHAPTER

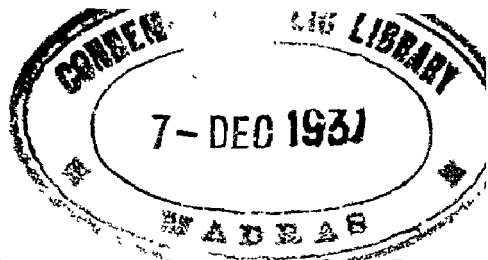
PAGE

high school a center of liberal culture; meaning of liberal culture; what is educative? 4. Special problem of the rural high school. 5. Vocational guidance: inculcate ideals of service. 6. Citizenship the highest objective: the supreme importance of great teachers; a tribute to a great teacher—Mark Hopkins.

XVI. CHARACTER EDUCATION..... 415

1. A new interest in character education: general evidences of interest; expressions of two presidents of the United States; awakening among business men; spontaneous applause of Lindbergh's character. 2. Relations of character, citizenship, morality: meaning of morality; distinction between morality and legality; custom and morality; a higher sanction—conscience; what is conscience? 3. Differences between the moral education of children and of adolescents: recognition of different stages of development; different methods for different stages; 4. Direct and indirect moral education. 5. Shall there be distinct courses in moral education? varying opinions; pupils do not oppose consideration of moral questions; questions asked by high-school pupils; Sharp's experience in directing specific courses in moral instruction; Neumann's analysis of the problem; the Iowa plan—character education methods; the Buffalo and Utah plans. 6. Typical State Laws relating to teaching morality, character, and citizenship; measurement in character education; Massachusetts order of 1647, and the Federal Ordinance of 1787; legal provisions in the State of Washington. 7. Character education through the curriculum: criteria of moral values in subject matter; moral instruction through mathematics; moral values through a study of sciences; moral values through art; music and moral culture; moral education through athletics; moral values through literature; the value of memory gems; history in character education; character education through a study of civics. 8. Moral education through school activities: participation as well as instruction; pupil government; machinery of pupil government should be subordinate; fraternities and character development; the home the supreme factor in character education.

Index..... 495



ADOLESCENT EDUCATION

CHAPTER I

A NEW ERA IN ADOLESCENT EDUCATION

1. NEW DEMANDS FOR EDUCATION

The modern crusaders. No chapter in all the history of education has been so striking as the development of the secondary school. The rise of the universities of the middle ages and the Renaissance were of marvelous significance because of the foundations laid for the stimulation of research and investigation. The establishment of common schools in continental Europe, in Scotland, in England, and in America was romantic because of the heroism displayed by a few ardent souls who saw in them the only means of intellectual as well as spiritual salvation. But the growth of secondary education has been an adolescent drama such as the poet has not yet been able to put into fitting words. We usually think of the schoolboy being pushed or pulled to school, but in reality has it not been the schoolboy—and the schoolgirl—who have demanded the school as a means of self-revelation, a means of penetrating the great mysteries of life, a means of satisfying innate strivings and ambitions surging within them? They throng to school in ever-increasing numbers in direct proportion as the school helps them to answer some of the

great problems of life. Make the school minister to these felt needs and no compulsory education laws will be needed.

2. THE RECENCY OF THE DEVELOPMENT OF SECONDARY EDUCATION IN AMERICA

Most of us came into an inheritance of secondary schools everywhere present and therefore can scarcely realize the recency of it all. This year I inquired of a class of seventy university students in how many cases both of their parents were high school graduates: seven responded. I then asked in how many cases both parents were college graduates and only four could answer in the affirmative. In a generation hence, the students whose parents are not high school graduates will be scarce, and vast numbers will come from homes where the parents are college bred.

The beginnings of public secondary education. The Boston Public Latin School was established in 1635, antedating by one year the founding of Harvard in 1636. However, secondary education was for long regarded as a purely private affair. We find utterances of eminent educational statesmen as late as 1850 saying that it is all right to maintain elementary education at public expense, but to maintain high schools by public taxation is undemocratic, un-American and unconstitutional!

According to Dr. Harris, former Commissioner of Education of the United States, in 1860, there were but 40 free, public, four-year high schools in the whole United States.¹ The accuracy of this statement has been challenged, but even with all allowances for inexact records of that time, the fact remains that it is probably approximately correct. In 1873, at the time of the establishment of a department

¹ *Proceedings*, National Education Association, 1901, p. 175

of education in the University of Iowa, the first in the world with continuous existence for the training of high school teachers, so few high schools had been established that the Report of the Commissioner of Education of the United States has no statistics regarding them. There were then 56,000 pupils in private secondary schools. In 1876 there were 22,982 pupils in public high schools and 73,400 in private academies.

Remarkable development since 1890. During the decade following 1890 the total high school enrolment, public and private, doubled; between 1900 and 1910 it again doubled; by 1917 it had again doubled; and by 1922 it was eight times as large as in 1890. By 1924 the enrolment was ten times that of 1890 and now in 1930 it is approximately fifteen times as great as in 1890. Public high schools have grown even more rapidly in proportion. From 1890 to 1895 the enrolment doubled; by 1903 it had again increased another 100 per cent; by 1911, another 100 per cent; by 1916 it was 600 per cent greater than in 1890; and by 1920 it was ten times what it was in 1890. The estimate of enrolment in 1930 approximates 5,000,000, having more than doubled since 1920 and being nearly twenty-five times as great as in 1890. During the last decade there has been added, on the average, one new high school a day counting Saturdays, Sundays, and holidays. This extraordinary development of secondary education in the United States is indicated graphically in Figure I. In the State of Washington, 41,000 children enter the first grade, 30,000 finish the eighth, and 27,000 enter the high school. Nearly 12,000 finish the high school course annually. That is, nearly one in three of these who start in the first grade finishes the high school course.

To-day one out of every two adolescents of high school

age is in actual high school attendance. In fact, the proportion is even a little higher for the United States as a whole. In urban centers it is much higher. In the rural communities it is less. In cities of the United States 71.1 per

**GROWTH OF HIGH SCHOOL ENROLMENT IN THE
UNITED STATES ***

1880 ■ 110,277

1890 ■ 202,963

1900 ■ 519,251

1910 ■ 1,000,000

1920 ■ 2,199,389

1925 ■ 3,650,903

1930 ■ 5,000,000

* Based upon various *Bulletins* of the U. S. Bureau of Education.

Figure 1

cent of the children between the ages of 15 and 18 are enrolled in high schools. The average for the same ages in rural communities is only 25.7 per cent. When the parents of these youths were of high school age only one in seven took advantage of a high school education.

The great event of to-day is not the airplane, the zeppelin, Edisonian inventions, or the radio—marvelous as these seem—but the changed attitude which the masses are coming to have toward thinking as a factor in daily life. Thinking no longer means to the man in the street the verbalistic busy work of the cloister. He sees the fruits of thinking all about him. Many factors have contributed to this change, but in the large it has been made possible by the free public school and the consecrated teachers who have sought to pass on the torch from generation to generation to an ever widening group of youth until now the school exists for all. The school of to-morrow will be better still. It will be supported by a public which knows that the real wealth of nations lies in the health, intelligence, skill, and purpose of the masses. The school of to-morrow will add to this wealth beyond the most eager dreams of to-day. We are now in the midst of an educational revolution—slow but certain, coming like the mighty tide. This editorial is based on existing practices of schools that are prophecies.¹

3. PSYCHOLOGICAL SIGNIFICANCE OF EDUCATION DURING ADOLESCENCE

Formative period of character. From many angles the period of secondary education is the most important in the entire life of the individual. It is then that the real character is crystallized. What an individual really is through life will be decided in youth. It is seldom that any great changes in character either for better or for worse occur after adult life is reached. Of course, after this, the world often comes to a knowledge of the individual at his true worth but the real character was crystallized generally long before the world recognized it.

Pre-school period contrasted. Much is being said just now regarding pre-school education. Many are asserting

¹ Morgan, Joy Elmer, "The School of To-morrow." *Journal of the National Education Association*, January, 1929, p. 1

that these are the most important formative years in the entire life cycle. They are certainly extremely important in the establishment of the foundations for physical health, the development of the organs and functions of the body, and for the unfoldment of the mental powers into normal activities. This is especially true of intellectual qualities like sense perception, memory, and imagination. Elementary emotional processes like fear and anger should be wisely trained through conditioned responses. Likewise the cruder unfoldings of volition should be determined through appropriate conditional reflexes. A considerable degree of foundational intellectual, emotional and motor control may thus become established. Many believe that if the child has been in the right environment and properly educated up to six years of age he will be so stabilized that no subsequent influence can possibly undo the work of the pre-school years. Those enthusiasts doubtless overestimate the effects of character formation in that early period. Formerly the church made the same misinterpretation. Some one said, "Give me the child during the first seven years of his life and the world may have him the rest." In this statement is expressed a tacit belief that by that time such a balance-wheel in character has been formed that no untoward later environment can possibly cause him to be deflected from the path of righteousness.

However, the higher intellectual powers like abstract thinking, critical judgment; the higher emotional states like love, altruism, loyalty; the higher powers of deliberate volitional control, all so necessary in moral action and in the development of real character, are still largely embryonic in early childhood. The powers absolutely necessary in genuine character formation, those requiring personal,

deliberate decisions instead of external compulsion do not unfold to any high degree before adolescence.

As a matter of fact, large numbers of youth reared in the best of homes and trained in all the finer and better things through the first seven years, or even ten or twelve years, do frequently entirely forsake all the teachings and habits of the earlier period. Character is not really formed until the individual himself through rational deliberation and choice selects principles of conduct and character and then voluntarily weaves them into the very warp and woof of life. This development is not consonant with childhood but comes with youth and maturity. Hence the importance of adolescence in establishing character. This will be elaborated more fully in the chapter on character education.

Profound changes in adolescence. Youth is the time when profound changes occur in the individual. So great are the modifications physically, intellectually, emotionally, and morally that they may be looked upon as almost like the metamorphoses of some of the lower types of life as they unfold from stage to stage. This is the time when the boy becomes physiologically a man, the girl a woman. The mental life emerges from a lower level to a higher. It is the season of initial love and choosing a life mate; the time of founding a family; of selecting and entering upon a life work. It is the age when young men dream dreams and see visions. It is also the age when the great majority of criminals are initiated into their life of crime. It is the age when mental upsets send so many unnecessarily to asylums for the unbalanced. The real character, which has been largely germinal, now becomes set for life. It is the period when nature, environment, and education combine to determine the crystallization of all life forces and

decide what manner of men and women the boys and girls shall be. The final integration of all factors at this time is prophetic of all their future.

In many ways the period of adolescence is the most important one in the entire existence of the individual. It is richer with blossoming possibilities and fraught with more dangers than any other age and hence it is a time upon which we look with great hope, a period holding out much promise and, at the same time, a season of the deepest concern.

Most of the instincts which are so determinative of the permanent life interests and activities are deferred in their functioning until adolescence. Moral instincts which have scarcely made their appearance in childhood, now begin to assert themselves. Of course, the child learns to do innumerable moral acts, but from compulsion or imitation and not because of reflection and deliberation upon the right and wrong of the question involved. This is likewise the birthday of the great dominating emotions and passions, the education and control of which mean happiness or misery.

So complete is the metamorphosis and so unstable the equilibrium that a few weeks of unfortunate environment may at this time undo all the most careful nurture of the preceding years and, likewise, a few weeks of propitious vitalizing influence may turn the whole flood tide of energy in the direction of growth that will save the individual to a life of usefulness to society.

With such armies of youth thronging our high schools and colleges, their education should be of great concern. We ought to understand the motives that prompt such widespread interest on the part of adolescents. We should also have clearly defined objectives regarding the whole

educational process and should understand the nature of the adolescents who are going through the educational process and also the means of wisely nurturing the precious talents with which the individual is endowed.

Every teacher who discovers that he has aptitude for dealing successfully with adolescents should be happy and contented in remaining as a teacher in the high school. It is not always possible to analyze the qualities that make a successful high school teacher. One person might be an excellent primary teacher, another a high grade superintendent but neither one make any appeal to the adolescent. There is no other phase of teaching in which the real artist teacher can mould and fashion with greater ease and satisfaction. To those who are gifted with artistic leadership, the youth are as pliant as clay in the potter's hands. To those whose personalities repel rather than attract, the youth are as unyielding as adamant. Those rare natures who are lovers of youth and who add to their native endowment preparation and consecration, may find perpetual enjoyment in a life of joy and happiness and thus realize the poet's characterization.

4. PARAMOUNT IMPORTANCE OF CHILD WELFARE

Conservation and improvement of child life. In the "Declaration of Principles" in 1915, the National Education Association asserted that:

Most prominent of these, perhaps, is that recent and important movement for the promotion of child welfare which embraces all movements tending to improve conditions surrounding the morals, health, and proper development of children. Like the question of world peace and international justice and good will, the conservation of child life is certain to appeal to all humanitarian people. Within the past two decades almost all civilized countries have become interested in this movement which em-

braces infant care, child labor, the protection of the child from injurious and contaminating influences, health supervision and instruction in schools, preventive hygiene, playground activities, and the treatment of the child in accordance with the laws of his mental and physiological development. Any system of public instruction which neglects the physical and moral welfare of children and confines itself to their mental training is certain to prove inadequate to meet the needs of either the individual or society. This Association therefore expresses the hope that both the teachers and the parents of the nation may interest themselves in and study the different movements looking toward the conservation and improvement of child life.¹

Educational adjustment starts with the child. The starting point of all education is the child himself. We are quite apt to think that the question is wholly a social or an industrial one. Suppose we were asked to tell what curriculum should be taken by pupil X. At once we must ask, "Who is X? How old is the pupil? Is this pupil a boy or a girl? A child, or an adolescent? Is the pupil normal, subnormal, or supernormal? What have been the life experiences? What has been the school training?" Many more questions, all relating to the pupil himself, must be answered before it is pertinent to inquire, "What does he intend to do in adult life?" They are nearly all biological questions.

Social and industrial objectives are important but secondary to the biological. Education should be basically an unfoldment of the powers or instincts which the individual inherits. The purpose of the school curriculum should be (a) to discover and (b) to stimulate the development of the potentialities which the individual possesses and (c) to fit him for effective participation in the social group of

¹ *Proceedings of the National Education Association, 1915*

which he is a member. It is only on this basis that most of the subjects and topics can be at all justified. They are usually thought to be practical but one may challenge the possibility of showing that anything except the barest rudiments of reading, writing, geography, and arithmetic in the elementary school, and such subjects as bookkeeping, stenography, typewriting, in the high school, have any vocational value for most of us. Neither do they assist us in our everyday activities to control the world to our advantage. I studied physics and chemistry in college but I depend upon the plumber, the doctor, the food expert, the electrician exactly as much as if I had never heard of those subjects. This does not in any way gainsay or minimize the educational values of these subjects. Even if they are very good factors in education, they are usually required for very poor reasons.

There are various factors which generally determine the character of the school curriculum and the methods of instruction. First, there is the influence of tradition. What has once gained a place in the school is tenaciously retained. Second, every new line of thought and endeavor is deemed of sufficient importance by faddists to be placed in the curriculum. Third, business interests play an important role in determining the conduct of the school. The business man is apt to regard the school as a failure if it does not turn out finished bookkeepers, expert accountants, lightning calculators, beautiful penmen, skilled artisans, and expert workmen generally. Fourth, the growth and development of the child himself is and ought to be a determinant. Whenever there is a conflict of reasons for including or excluding any content or method in the school-room the final consideration should be "Will it promote

the normal development of the individual?" If so, it should prevail, if not, it should be cast aside. Vocational demands have been far too greatly urged in determining the conduct of the schools.

President Butler in 1898¹ sensibly pointed out that stages of child development must be the guide in the determination of the curriculum. He showed that there is a natural "base-line from which to measure and lay out the educational course in the nature of the child-mind and in the character of the studies pursued rather than any merely formal and external scheme of administrative classification."

5. OBJECTIVES OF THIS BOOK

This book is intended to be an analysis and inventory of the adolescent himself in order to find out his potentialities and his needs as determined by his unfoldment. Purely economic interests may have been so insistent in times past that it was impossible to educate the child according to nature, but world progress has reached such a high degree of efficiency that there is absolutely no reason why education may not proceed along ideal lines.

The course of study will be considered only incidentally. In the past, educational curricula have been determined by criteria outside of the pupil. Business, social conditions, tradition, have been the determinants. Ask the average business man what the boy should study and he immediately thinks of his business and says arithmetic, book-keeping, typewriting, the trades. Why? Because he is desirous of having expert bookkeepers, trained accountants, and skilled artisans. His answer may be based upon pure tradition or upon a false psychology. The educational

¹ "The Scope and Function of Secondary Education." *Educational Review*, 16: 1898. 15-27

theorist, not trained in psychological analysis, thinks of the logical unfoldment of the subjects and arranges the traditional subjects so as to give what he considers to be ideal "mental discipline."

The child psychologist instead of going to the industries or to tradition goes to the child for his answer. What is the child's stage of unfoldment of powers, what are his nascent instincts, what are his native interests? These discovered give a key to the type of activity suited to that particular child at that particular time. Of course, environment, that is, the industries, the necessary work of the child and the home, the complex life of organized society, should then be scanned to see which activities furnish the type suited to that individual and that period.

A brief chapter is devoted to the period of preadolescence, the three- or four-year stage just antedating the oncoming of puberty and adolescence. The dividing line between the two is not absolutely fixed. In the early years of the secondary school there are many pupils just emerging from the budding preadolescent stage and entering upon the threshold of the complete blossoming stage of adolescence. Most teachers in the junior high school will have to deal with both types. Then all sound educational procedure builds upon what is, in order to achieve what is to be. Therefore the teacher of adolescents needs to understand the immediate past of his young fledglings in order to guide them successfully into the immediate future.

SELECTED REFERENCES

- BOLTON, FREDERICK E. "Some Paramount Objectives of Secondary Education." *Education* (January, 1926)
- DEWEY, JOHN. *Democracy and Education*. The Macmillan Company, 1925

- DEWEY, JOHN and EVELYN. *Schools of To-morrow*. E. P. Dutton and Company, 1915
- MORGAN, JOY ELMER. "The School of To-morrow." *Journal of the National Education Association*, 18: 1-2, January, 1929
- National Education Association. "The Advance of the American School System." *Research Bulletin*, Vol. 5, No. 4, September, 1927
- National Education Association. "Facts on the Public School for American Education Week." *Research Bulletin*, Vol. 2, No. 4, September, 1924
- National Education Association. "Taking Stock of the Schools." *Research Bulletin*, Vol. 3, No. 3, May, 1925
- National Education Association. "Can the Nation Afford to Educate Its Children?" *Research Bulletin*, Vol. 6, No. 5, November, 1928
- National Education Association. "Creating a Curriculum for Adolescent Youth." *Research Bulletin*, Vol. 6, No. 1, January, 1928
- PHILLIPS, FRANK M. "Statistics of State School Systems, 1925-26." U. S. Bureau of Education, *Bulletin*, 1927, No. 39
- PHILLIPS, FRANK M. "Statistics of Public High Schools," U. S. Bureau of Education, *Bulletin*, 1927, No. 33
- PHILLIPS, FRANK M. "Statistics of Private High Schools and Academies, 1925-26." U. S. Bureau of Education, *Bulletin*, 1927, No. 31
- WINDES, EUSTACE E. "Trends in the Development of Secondary Education." U. S. Bureau of Education, *Bulletin*, 1927, No. 26

CHAPTER II

THE STAGE OF PREADOLESCENCE

1. A SIGNIFICANT BUT NOT WELL-UNDERSTOOD PERIOD

The years included. Preadolescence includes the period of about four years just preceding adolescence. It comprises the years just before the onset of puberty when the individual becomes sexually mature and takes on the characteristics of early adult life. Normally this will mean the years from about eight or nine to twelve or thirteen, depending upon the individual's development. Some races mature early, some late. Then there are individual variations determined by family heredity and by the individual's environment. It is recognized here that there may be wide differences in individual cases between chronological age and physiological and mental maturity. That will be discussed more fully in later pages.

Importance of knowledge of the preadolescent. The period is a very important one educationally. It is believed that a better knowledge of its characteristics may assist in the better adaptation of the school work so that pupils may be prepared to enter upon the junior high school work to better advantage. Because of past inadequate knowledge of the preadolescent period and consequent maladjustment of school work many pupils upon reaching the grammar grades and the junior high school have not been qualified by experience and information to enter into the richer curriculum which the junior high school affords.

Even for those who are to teach in the high school, a knowledge of preadolescence is of exceedingly great value. Teachers in the high school frequently fail because they do not know enough about the stage of development of the boys and girls entering the high school. Teachers fresh from college, frequently without previous teaching experience, without professional training and having given scarcely a thought to their future work, are placed in the high school—usually in charge of the first year work. I once heard Superintendent Cooley of Chicago say at a meeting of the National Education Association that the worst teaching in the whole school system is in the first year of the high school. I knew of a teacher, who specialized in botany in the university, who was elected to a high school position and given the first year class in botany.. He took his university botany notes and “lectured” to those youngsters. He secured a large number of compound microscopes for the work. He was much disgusted to think that the pupils did not seem to like botany and utterly failed to get results.

It would be good fortune if every prospective high school teacher were obliged to teach for a year in the intermediate grades and the grammar school. Of course, the teacher who expects to continue in the high school should not remain in the grades too long. By dealing with children through a long period of time the teacher becomes habituated to their types of thinking and out of touch with the more varied and broader thinking of adolescents. Methods of discipline especially are different and the teacher who persists in commanding adolescents as she has done children is likely to encounter opposition.

Because the boys and girls are so much larger and more mature in appearance, the teachers do not realize that they

are just emerging from a stage of immaturity in thought and action as well as of physical structure. They are apt to think of the pupils as being on a much higher level of maturity and achievement than they really are. Consequently they fail to connect the new materials and methods with the earlier ones to which the pupils have become accustomed. The result is that the pupils are often mystified and discouraged. This gap could be bridged much more successfully if teachers only understood the pre-adolescent stage more thoroughly.

Plan of this chapter. Because of the importance of understanding the period of preadolescence as a background for the better interpretation of adolescence, some consideration will be given to (a) general physical characteristics, (b) mental characteristics, and (c) the education best suited to these characteristics.

2. PHYSICAL AND PHYSIOLOGICAL CHARACTERISTICS

Significant physical growth phenomena. No attempt will be made to display a complete dissection of the manifold facts of physical and physiological growth and development. However valuable such an exhibit might be from the standpoint of anatomy and physiology, it would doubtless have little value in suggesting a scheme of education for the preadolescent years. Such an array of facts and statistics might have a semblance of erudition but any legitimate inductions from them which would contribute to educational theory would be meager. A few conclusions that seem warranted by the facts are discussed in the following pages.

The accompanying tables (II, IV) in modified form are taken from Hall's *Adolescence*, Volume I, pp. 7, 8. The

tables were originally compiled by Boas.¹ He summarized the studies of Bowditch, Peckham, Porter, and West. The children studied were in Boston, St. Louis, Milwaukee, Worcester, and Toronto. The study by Boas is still the classical one on the growth in height and weight of school children. The figures for the earlier ages, from one to six (Tables I, III), were not included in any of the foregoing

TABLE I
HEIGHT OF BOYS AND GIRLS

BOYS				GIRLS		
Ages in Years	Average Height Inches	Annual Increase Inches	Per Cent of Annual Increase	Average Height Inches	Annual Increase Inches	Per Cent of Annual Increase
Birth	20.622			21.208		
1	29.405	8.783	42.54	28.799	7.591	35.79
2	33.795	4.390	14.93	33.047	4.248	14.75
3	36.905	3.110	9.15	36.358	3.311	10.02
4	39.336	2.461	6.67	39.326	2.968	8.16
5	41.879	2.513	6.39	41.460	2.134	5.47
6	44.102	2.223	5.30	43.201	1.741	4.19

studies. For those years computations have been made from Baldwin's remarkably complete ones for the period of early childhood.²

Decreased rate of preadolescent growth in height and weight. A study of the statistics of growth in height and weight (Table II) of children from birth to eight years of age shows clearly that in both height and weight the greatest increment is during the first year. The percentage of annual increase diminishes until about the age of eight

¹ Burk, Frederic, "Growth of Children in Height and Weight." *American Journal of Psychology*, April, 1898, pp. 253-326

² "The Physical Growth of Children from Birth to Maturity," University of Iowa *Studies in Child Welfare*, 1921, pp. 60-63

years when there is a still further reduction in the rate of annual increase in both height and weight. Baldwin says:

It will be noted that the height doubles during the first six years after birth and the weight increases four times. The greatest increase is during the first year in both height and weight. The weight-height index on an average doubles during the first six years after birth. The per cent of gain is higher for boys than

TABLE II
HEIGHT OF BOYS AND GIRLS

Ages in Years	Boys			Girls		
	Average Height Inches	Annual Increase Inches	Per Cent of Annual Increase	Average Height Inches	Annual Increase Inches	Per Cent of Annual Increase
5½	41.7			41.3		
6½	43.9	2.2	5.3	43.3	2.0	4.8
7½	46.0	2.1	4.8	45.7	2.4	5.5
8½	48.8	2.8	6.1	47.7	2.0	4.4
9½	50.0	1.2	2.5	49.7	2.0	4.2
10½	51.9	1.9	3.8	51.7	2.0	4.0
11½	53.6	1.7	3.3	53.8	2.1	4.1
12½	55.4	1.8	3.4	56.1	2.3	4.3
13½	57.5	2.1	3.8	58.5	2.4	4.3
14½	60.0	2.5	4.3	60.4	1.9	3.2
15½	62.9	2.9	4.8	61.6	1.2	2.0
16½	64.9	2.0	3.2	62.2	0.6	1.0
17½	66.5	1.6	2.5	62.7	0.5	0.8
18½	67.4	0.9	1.4			

for girls at each age after birth and the weight-height indices are uniformly higher for boys than for girls.¹

Reference to the tables of growth in height and weight show clearly that during the preadolescent period there is a slackening of the rate of growth in both height and weight. Between the ages of 5½ and 8½ the average annual increase in height of 69,000 boys was 2.3 inches or 5.4 per cent and

¹ Op. cit., p. 65

for girls is 2.1 inches or 4.9 per cent. During the next four-year period the average annual increment in height for boys was only 1.6 inches or 3.25 per cent. For girls the annual increase during the three years of greatest slackening was 2 inches annually or 4.1 per cent.

Between the ages of $6\frac{1}{2}$ and $8\frac{1}{2}$ the average annual increase in weight of 69,000 boys was 4.6 pounds or 9.8 per cent and for girls 4.5 pounds or 9.9 per cent. During the next four years there was a decrease for boys to 5.6

TABLE III
WEIGHT OF BOYS AND GIRLS

Boys				GIRLS		
Ages in Years	Average Weight Pounds	Annual Increase Pounds	Per Cent of Annual Increase	Average Weight Pounds	Annual Increase Pounds	Per Cent of Annual Increase
Birth	8.816			9.367		
1	21.026	12.210	138.48	20.210	10.843	115.76
2	26.271	5.245	24.95	25.147	4.937	24.42
3	30.811	4.540	17.28	29.401	4.254	16.91
4	34.955	4.144	13.45	33.060	3.659	12.44
5	37.486	2.931	8.38	36.454	3.394	10.26
6	40.950	3.064	8.08	39.980	3.526	9.67

pounds or 8.9 per cent. For girls during the next two years, between $8\frac{1}{2}$ and $10\frac{1}{2}$, there was a slight decrease to 5.2 pounds or 9.15 per cent. These facts are presented in Table V, Chapter IV.

Tyler says:

The tenth year in the girl and the eleventh year in the boy are years of very slow growth in both weight and height. This retardation of growth may be hastened or postponed a year in different localities. The girl is a full year more precocious than the boy, and her year of minimum growth may fall at nine. The slackening of growth is usually less marked in her case. Her

development is more crowded and hurried. Series of changes, which go on more nearly successively in the boy, are often telescoped, as it were, in her case.¹

Digestive equilibrium. At about seven or eight, the first teeth are shed and the second dentition occurs. Every teacher and every mother are familiar with the toothless

TABLE IV
WEIGHT OF BOYS AND GIRLS

Ages in Years	Boys			Girls		
	Average for Each Age Pounds	Absolute Annual Increase Pounds	Per Cent of Annual Increase	Average for Each Age Pounds	Absolute Annual Increase Pounds	Per Cent of Annual Increase
6½	45.2			43.4		
7½	49.5	4.3	9.5	47.7	4.3	9.9
8½	54.5	5.0	10.1	52.5	4.8	10.0
9½	59.6	5.1	9.3	57.4	4.9	9.3
10½	65.4	5.8	9.7	62.9	5.5	9.6
11½	70.7	5.3	8.1	69.5	6.6	10.5
12½	76.9	6.2	8.7	78.7	9.2	13.2
13½	84.8	7.9	10.3	88.7	10.0	12.7
14½	95.2	10.4	12.3	98.3	9.6	10.9
15½	107.4	12.2	12.8	106.7	8.4	8.5
16½	121.0	13.6	12.7	112.3	5.6	5.2
17½				115.4	3.1	2.8
18½				114.9		

mouths of the youngsters in about the second or third grade. Great digestive disturbances are consequent upon the changes of dentition. These in turn affect the nervous system and mental development. During the preadolescent period the digestive functions become stabilized.

Tyler aptly says furthermore:

We should bear in mind that the digestive system rather than the brain, is the foundation of all greatness. On it hang all the

¹ *Growth and Education*, p. 157

possibilities of health, vigor, and power as well as of existence. A poorly nourished body can hardly contain or minister to a healthy brain. In early childhood the table and meal are far more important than school or books. . . . In later childhood and early youth, until twelve or thirteen in the girl, and a year or two later in the boy, the growth is more in length than in girth, and the legs are growing faster than the trunk. We shall find reason to believe that this growth in length and mostly in the appendages is an especially expensive and exhaustive process.¹

Tyler says of this period, especially of the first part:

If all organs were equally developed, each would have attained one-third of its adult weight. This is not the case. The digestive system is still in advance of all the other organs. Liver and kidneys are still relatively large, but are fast sinking to their adult proportions. The size of these vegetative organs reminds us that we still have to do with an organism which retains strongly marked infantile conditions and characters, whose chief business is, even yet, growth fully as much as development. The lungs are small, but the greater ratio of surface to mass, and the more rapid breathing may compensate somewhat for their lack of size.²

The circulatory system. In the period before puberty the heart is relatively small and the blood vessels large. The heart has not kept pace with the general body development. It is only about one-fourth its weight in adult life while it has to propel the blood over the body which has two-thirds its adult weight. This makes great demands upon the heart, and doubtless is the cause of shortness of breath and other symptoms of fatigue, frequently observable during preadolescence. Christopher calls the eighth year the fatigue year. Holt accepts this explanation.

Brain and nervous system. The human brain weighs nearly a pound at birth. At the end of the first year it has almost doubled in weight. At the end of the third year it

¹ Op. cit., p. 87

² Op. cit., pp. 140-142

has nearly trebled. By seven years of age it has nearly reached its maximum size and weight. From that time on the increase is very slow. But, notwithstanding the very rapid growth in mass and weight and the development of all the lobes and fissures, the maturation of functions is far from complete. While in anatomical age the brain is relatively precocious, in physiological age it is far behind.

At birth there is little medullation in the cerebrum. Here the sensory centers develop earliest. The first is that of smell, then of sight, and last of all that of hearing. These develop rapidly at first but continue more slowly later up to adult life. Cortical centers controlling voluntary muscular activities seem to mature later. The child is sensory and acquisitive and, later, a well-controlled voluntary being. Fully coördinated mental and muscular control require much time and experience for complete development. During this period of coördination the association fibers are being formed in the brain.¹

General diminished rate of physical growth. Judged by comparative statistics of physical growth there is somewhat of a retardation of the rate of growth in many organs. This is true of height and weight and also of the heart, lungs, and brain. In all probability a reorganization and redirection of forces is going on judged by the fact that functions a little later show much greater maturity, also in the case of the heart and lungs showing greatly increased size. But the significant fact to be considered is that during the period of preadolescence immaturity is still characteristic of organs and functions. This is evidenced by the small strength of the muscles, the meager heart and lung power, and the juvenile mental life readily apparent.

¹ See Tyler, *Growth and Education*, Chapter V, and Donaldson, *Growth of the Brain*

In general the period is one in which there is a somewhat slackened rate of growth, although this is not exceedingly striking. The most significant thing about growth physically is that it is of essentially the same type as has been established by seven or eight years. During the early years of childhood important new phases of structural and functional development were continually appearing, as in the proportion of the body, legs, arms, head, the appearance of the first set of teeth and their loss, succeeded by an entirely new set, strikingly different in type.

The baby facial features, with their characteristic small flat nose and retreating forehead, rapidly changed to those which were little altered until adolescence. The organs of digestion and circulation were almost completely metamorphosed during the first half dozen years. The diet of the child underwent a similar change.

In function the child developed from a state of almost complete helplessness to one of very considerable ability to creep, stand, walk, run, talk, throw, learn to read, and write. But during the preadolescent period not a single pronounced metamorphosis takes place nor a single *new type* of acquisition. Later on marked changes occur.

3. PREADOLESCENCE A SENSORY-MOTOR PERIOD

Development of coördinations. In the early period of childhood the senses develop rapidly. The sensory mechanisms early become practically perfect instruments for acquiring impressions of the outside world. Muscles also grow rapidly and acquire considerable anatomical proportions. Their physiological age is, however, considerably less than their anatomical age. The child is relatively slow in developing precision of movement except of the larger and coarser types. Coördination of senses and of the finer

motor activities is of slow development. The period from about seven to twelve or thirteen has been characterized by Clouston as one of coördination. During this stage the finer coördinations such as those involved in handwriting, sewing, instrumental and vocal music, manual arts, drawing, and typewriting, can naturally and safely be perfected. Before that time harm may result because of premature exercise of immature centers. If postponed until much later it is more difficult to establish the coördinations.

4. GENERAL CHARACTERISTICS OF PREADOLESCENT MENTAL LIFE

Sense perception dominant. During this period the child's senses are keen. Sight, hearing, touch, and muscular coördination, all so necessary in building up concepts of the objective world and in acquiring habits and skills, function as efficiently now as they ever will. Of course, the child possesses a wider range of facts, but they are analyzed and handled in largely the same uncritical fashion as earlier. Memory is still predominantly of the mechanical type rather than of the logical type, and is about as good at eight as it will be at twelve. Imagination is still predominantly of the reproductive type, the emotions are still unstable and vacillating, and real morality has scarcely begun to bud. Interest in acquiring multitudes of facts concerning the big world about them is strong. This is a sensory-motor period, a period for gathering not a period for organizing. Reasoning and abstract thinking, while unfolding, are by no means dominant mental characteristics.

Mental life in the preadolescent years is relatively very simple. Thinking is in very concrete terms. Sense perceptions are gathered with great eagerness, but abstractions

are simple, unorganized and inaccurate. Children are much more interested in play activities, especially those involving muscular exercise than in formal school work.

Emotional life is characterized by superficiality, unreflectiveness, changeability, and lack of disciplined control. The child is easily interested in whatever appeals to the senses. Interests manifested at this stage are largely the spontaneous expression of chance environmental stimuli that arouse instinctive tendencies. Many habits that may have great moral significance have been acquired, but real morality of the reflective type which has resulted in the formulation of abstract moral principles is very rudimentary.

Certain phases of the mental characteristics of preadolescence will be given a fuller treatment in the next few pages. Those processes which have a special bearing on the determination of school procedures will be considered.

5. CHARACTERISTICS OF SELECTED ABILITIES

Preadolescent memory. One of the most distinctive abilities to be recognized in the education of the preadolescent is that of memory. The possession of a wonderful mechanical memory at that stage is an asset to be utilized to the utmost advantage. From eight to twelve the mechanical memory is about as strong as it ever will be. The power of logical analysis and therefore acquisition of abstract ideas will improve vastly after that. It is not implied here that before that time no power of abstraction is present but that the power of mechanical memory is dominant at this time and therefore ought to be utilized.

Such acquisitions as names of objects, activities and events, gems of poetry, spelling, and the multiplication table, can be gained readily without compulsion or feeling of hardship. Great funds of geographical names and places,

historical events, and the dramatic stories in great literature can all be recorded with great ease and fidelity.

Norsworthy and Whitley have analyzed well the differences between the memory of children and adults. They say that:

The facts concerning permanent memory tend to bear out the common impression that children have better memories than adults. . . . Although retentiveness is weak during the first four years it improves steadily up to about twelve years old or perhaps slightly later; after that, both ability and accuracy in retention fall off. So that although children forget more than adults do . . . a child of ten would not learn so easily as an adult of thirty for an immediate test of memory, would forget more during the first twenty minutes following the memorizing, but would keep better to the next day or next week whatever survived this first forgetting period . . . what one gets in childhood is more likely to remain than what is fixed at any other time in life . . . The recent work of the Freudian school tends to emphasize this fact.¹

Meumann wrote:

In comparing the memory of the child with that of the adult we must distinguish between two different capacities: the capacity to learn and the capacity to remember. The child's capacity to learn is inferior to that of the adult; but what has once been learned is retained better by children. . . . We do not yet know at what age the child's retention becomes superior to that of the adult. Experiments have shown, however, that material which has been learned either mechanically or significantly is retained better by school children than by adults, and that adults memorize much more rapidly than school children.²

Meumann adds that Radossawljewitsh has amply demonstrated this fact.

Most of the confusion with reference to the question of the relation between age and memory capacity comes from

¹ *Psychology of Childhood*, p. 132

² *The Psychology of Learning*, p. 245

not analyzing clearly and distinguishing among the functions sharply. Most of the memory experiments have really tested the capacity for acquisition rather than the powers of retention or of recall.

Preadolescent thinking. During the preadolescent period the chief mental characteristic is certainly not deliberate reflection and precise scientific thinking. No attempt will be made to maintain that children do not think. They certainly do think, but not very deliberately or effectively. Careful, critical thinking is not a dominant characteristic. They are constantly forming judgments, but these are made without waiting for all the data and with little weighing of the elements considered. Anyone who has tried to teach arithmetic to youngsters in the intermediate grades will recall how frequently it is necessary to say to the child, "Now, think!" The merest chance associations are seized upon as explanations in arithmetic, geography, or natural science. They accept uncritically all sorts of superstitions like "frogs raining down," "horsehairs turning into snakes," "snakes living until sundown, though cut into pieces," "charming away of warts." Their thinking is of the mechanical association type.

Norsworthy and Whitley make the following comments upon this point:

The power of forming abstractions is not good, nor is the interest in abstract truth, nor the memory for abstract things. Concepts of time, of space, and of number are fairly well developed within the limits of daily experience and of vivid imagination. On the whole, concepts are chiefly in the form of generic imagery or generalized analogy to some specific instance. As a result, reasoning for reasoning's sake seldom interests children at this age, conduct is seldom generalized, money values need to be personalized, aesthetic and ethical values need to be made specific and concrete.

It is an age when the emotions are strong, the volitional impulses are also strong, but self-control is still weak. Although freedom for initiative on moral, aesthetic, and intellectual fields is very necessary, the opportunity for this must be restricted and balanced with frequent direction; impartial control is equally important for the developing eleven-year-olds, and is, moreover, appreciated by them.¹

Monroe² says that children of seven or eight seldom give reasons for selecting their favorite games. After thirteen most of them do give reasons for their choice. He therefore regards the age of thirteen as the age of beginning to examine evidence critically. Barnes³ and Shaw regard children's power to classify weak before twelve years. Hancock⁴ in his study of children's errors in arithmetic concluded that their power to compare numbers does not seem dominant before twelve. Burk⁵ considered that the higher mental powers begin to mature at puberty.

Emotional and social attitudes. During the period of preadolescence children are very unstable emotionally. They can be led to love any individual or ideal very easily if brought into their lives in such a way as to please their fancy. Under other circumstances the same individual or ideal might be the object of their hatred and scorn. They are so vacillating that overnight they often transfer their fealty from one set or gang to an entirely different one. One day two grammar school girls are "as thick as hops" and the next day they will not speak to each other. Rings and cliques at that age are as unstable as ice on a summer's

¹ Op. cit., p. 304

² Monroe, W. S. "Play Interests of Children," *Transactions of Illinois Society for Child-Study*, Volume IV, p. 5

³ Barnes, Mary Sheldon, *Studies in Education*

⁴ Hancock, J. A. "Mental Differences," *Proceedings, National Education Association*, 1897, p. 852

⁵ Burk, C. F. "The Collecting Instinct," *Pedagogical Seminary*, Volume VII, p. 204

day. One day they are friend and admirer, the next, enemy and contemner. It is well known that it is impossible to secure team work in base ball among boys under twelve. The child's grief is soon over. Even after the loss of a parent, the grief is seldom deep or lasting. Others can immediately gain the place of the lost one. Genuine love is very shallow or largely lacking at this age.

Shakespeare says:

"What is love? 'Tis not hereafter;
Present mirth has present laughter;
What's to come is still unsure.
. . . Youth's a stuff will not endure."

It is largely because of the shallowness and fickleness of the higher sentiments involving altruism that school discipline is such a difficult problem in the grammar school. The children are all intense egoists. Whatever contributes to their immediate whims they like, whatever does not suit their egoistic pleasure they scorn. They are very imitative and love to engage in play that gives free rein to their imagination. They drink in stories like "The Last of the Mohicans," "The Leatherstocking Tales," "Treasure Island" and then in play reënact the savage scenes depicted. Any village back lot affords good evidence of their savage proclivities. The lot is dug up and caves are fashioned. Smoke may be seen issuing and inside may be found the diminutive warriors decked out in paint, feathers, tomahawk, knives, and spears. Often there may be found loot purloined from sundry places. Sometimes there is a good stock of provisions, not all purloined from mother's pantry. The thought of right and wrong scarcely enters in. They are simply so ego-centric that naught but the satisfaction of their own savage instincts determines what they do. They

are simply thoughtless of all save the satisfaction of their own impulse-prompted pleasure. They must not be given up as hopeless. By and by all this apparent savagery will be moulted and they will emerge upon another and a higher plane—a stage nearer manhood.

Moral attitudes in preadolescence. Children at this age are neither definitely moral nor immoral. They are largely unmoral. That is, they do not deliberate to any great extent on the right and wrong of conduct nor do they weigh the possible consequences of behavior. They are much like little children in their uncritical attitude regarding right and wrong. To them to a large extent "Whatever is, is right," provided it is the habitual conduct of their gang. They are different from little children in that by preadolescence they have built up a large fund of habitual ways of doing and thinking. This fact is valuable or detrimental according to the type of habits established.

The codes of ethics of any group of preadolescents are very binding upon all its members so long as they have allegiance for the group. Of course, their fickleness causes them to shift easily from one group to another and with shift of allegiance their standards of ethics change. At this age they do not make good boy scouts. Their interests are too fluctuating, their fidelity to the group too weak and changing, and the meaning of loyalty too undeveloped. The older boys of adolescent age to whom scouting makes a strong appeal do not like to have the younger boys in the troops.

Pringle, a keen observer of real flesh and blood boys, has observed the same ego-centric vacillation and comments as follows:

Life at this time is naturally and decidedly individualistic. The preadolescent is ego-centric, always looking out for "number

one"; he is likely to be unsympathetic and regardless of others; with him self-preservation is, indeed, the first law of nature. The altruistic symptoms which he may show are, when really understood, largely imitative. . . . This is the tribal period of boyhood and the gang is a primitive democracy, whose principles and purposes must be observed by the members; and, although his membership is readily transferred to another gang, the boy is remarkably loyal to the interests and purposes of the gang as long as these obtain.¹

6. CHARACTERIZATION IN LITERATURE

This period of life has attracted much popular attention. This is evidenced by many characterizations in popular literature. The sketch of the "Lantern Bearers" by Robert Louis Stevenson typifies the general impression which the preadolescent boy makes upon his observing elders. Undoubtedly Stevenson was writing a page largely out of his own life. The observations are personal reminiscences suggested to him by the behavior of preadolescents around him in mature life. He portrays some of the dominant characteristics of preadolescent youngsters. Standing out among these characteristics are those apparently unfeeling attitudes of the savage, the tribal organizations, unstudied imitation, blind fealty to their leaders, their fickleness and easy transfer of loyalty, their utter unconcern for the welfare of others, their keen perception but entire disregard for logic. The tendency to indulge in short-lived fads and the strength of mere gang spirit are also vividly portrayed.

Toward the end of September, when school time was drawing near, and the nights were already black, we would begin to sally from our respective villas, each equipped with a tin bull's-eye lantern. The thing was so well known that it had worn a rut in the commerce of Great Britain; and the grocers, about the due time, began to garnish their windows with our particular brand

¹ Pringle, R. W., *Adolescence and High School Problems*, p. 10

of luminary. We wore them buckled to the waist upon a cricket belt, and over them, such was the rigor of the game, a buttoned top-coat. They smelled noisomely of blistered tin. They never burned aright, though they would always burn our fingers. Their use was naught, the pleasure of them merely fanciful, and yet a boy with a bull's-eye under his top-coat asked for nothing more. . . . To the eye of the observer they are wet and cold and drearily surrounded; but ask themselves, and they are in the heaven of a recondite pleasure, the ground of which is an ill-smelling lantern.

7. PREADOLESCENT EDUCATION ADJUSTED TO THE FOREGOING CHARACTERISTICS

Key to educational procedure. The foregoing analysis of the physical, intellectual, emotional, and moral characteristics is intended to furnish a key to the general principles of educational procedure during preadolescence. No attempt will be essayed to present a detailed curriculum of a daily or yearly program of studies. Not even will the specific studies appropriate to the period be catalogued. The assumption is made that from a psychological point of view education is a means of developing to the fullest possibilities the innate abilities and powers with which individuals are endowed at birth. Sociologically the individual should acquire such specific knowledge, habits, and skills as will enable him to live effectively and happily and to serve society to the fullest possible extent. Psychology can point out the type of equipment with which the individual is endowed and the type of learning possible and advantageous at any given period. It also discovers methods of procedure. It is for sociology to select the particular knowledge, habits, and skills which society may need for the promotion of social welfare. This discussion is primarily concerned with the psychological foundations and only incidentally with sociological considerations.

Fundamental types of learning suited to preadolescence.

If then we are to coöperate with nature in the education of the child, we should help him to learn and acquire the things that he can easily, naturally, and economically acquire. Whatever is abstract, complex, and difficult of comprehension or mastery should be postponed until nature suggests through interest and ease of acquisition that they can be economically gained.

During this preadolescent period no new powers and no new types of interests appear. A rational inference, then, would be to center upon and continue the same types of learning as during the preceding two or three years. Of course the particular facts learned and the particular skills mastered would be additional, but of the same essential types. Any successful educational adjustment of preadolescent pupils should therefore require that instruction be of a concrete nature, probably much simpler than we have been generally giving in the intermediate school. The approach to abstract, complex work in arithmetic, grammar, history, and science should be gradual. The successful junior high school or senior intermediate school will undoubtedly make the transition far less abrupt than under the older organization.

During the period of preadolescence a great multitude of habits and skills become rather elaborately organized and firmly fixed. Manifold habits of importance in everyday life such as talking, walking, running, eating, habits of personal hygiene, courtesy, become largely a matter of routine. Not only those habits determined largely by the conventionalities of life become established, but a large and important fund of school habits and skills have been selected for acquisition. As illustrations we need mention only such useful skills as the mechanics of reading, spelling, the addi-

tion, subtraction, multiplication, and division tables, handwriting, and certain stereotyped forms of oral and written expression. While some emphasis is properly placed upon the enlargement of the child's fund of knowledge, the brunt of time and effort is necessarily devoted to the formal aspect of education, to the fixing and extending of the arts of learning and the acquisition of the tools of learning and the habits and skills in using them. During this period the child's mind does not seem fitted by maturity to comprehend new types of learning different from those of the elementary school, nor has he perfected the tools for unlocking new, enlarged, and especially the scientific stores of knowledge. The child still dwells in the concrete, factual realm with little ability in the scientific or logical organization of materials.

Judd writes:

The most significant general fact about the maturing of children is that they pass from a period of early life where their behavior is largely unorganized and uncertain to a later stage where their habits are fixed. Corresponding to these facts of behavior are conditions in the nervous system. The infant and the little child have great areas in the higher nervous organs which are undeveloped. In the course of experience these areas are mapped out for better or for worse, and the individual's behavior becomes stabilized and his modes of feeling and thinking become fixed.¹

8. OBJECTIVES IN SOME SUBJECTS IN THE ELEMENTARY SCHOOL

Plan of treatment. The following pages suggest in merest sketch some objectives for accomplishment in certain subjects in the intermediate school. They are in no sense exhaustive. They do not purport to give details of method.

¹ *Psychology of Secondary Education*, Ginn and Co., 1927, p. 55

Neither are they an outline of the content in those subjects. The appropriate content in each should be determined by each teacher in view of surrounding opportunities, materials at hand, and the apparent interests of the pupils in charge. These suggestions are intended to give a *point of view* that may help the teachers to know the pupils, to know some means of awakening and ministering to their unfolding interests, and to help to place the pupils on the high road to self-education—the only true education. Education should be lighting a torch and not merely filling a basket.

Reading. By the end of the elementary school period (sixth grade) we should be satisfied if pupils are able to understand what others say orally, to read with intelligence and proper expression books within their comprehension, to write intelligibly and effectively simple letters or descriptions of things which they understand. It should make little difference as to the amount of grammar that they have studied. In the study of English in the elementary school we should include only those parts of grammar and composition that will teach the pupils to understand, to interpret, and to express their simple thoughts. All other topics should be rigorously excluded, which, by these standards include far the larger list.

By the end of the grammar school course children should have read much from the great masterpieces of child literature, including fairy tales, myths, legends, Bible stories, stories of adventure, heroism, stories both in prose and in verse. These should have been read with little critical consideration, and solely because the child has been interested in them. He should have become acquainted with the precious contents of libraries, and know where and how to find the literature that appeals to him.

There is no good reason why the elements of English composition may not be acquired during the elementary and the grammar school period. The number of abstract principles involved is very small. If each one is clearly explained and then drilled upon until it becomes a permanent possession of the nervous system there is no reason why children will not habitually construct sentences grammatically correct, properly capitalized, with proper terminal punctuation marks, and with interspersing punctuation marks reasonably correct.

Spelling is another art that should be mastered before twelve years of age. There is no reason why it can not be acquired by the average child if the laws of its acquisition are observed. Certainly there are individual differences which enable some to learn to spell quickly and which cause much more labor by others, but if ordinary children do not learn to spell, something is amiss with their teaching. To have to spend much time in teaching spelling in the high school is evidence of previous maladjustment. To be required to teach spelling in college is a waste of the state's money. To learn spelling is primarily a matter of fixing in mind and muscle certain mechanical combinations of associations. As mechanical memory is one of the dominant characteristics of preadolescence, spelling is one of the arts that can be easily mastered at that age. To be sure it takes high art of teaching to motivate spelling so that the child can be induced to repeat the combinations sufficiently to fix the bonds of association. But the child is interested in memorizing mechanically and he is interested in competition so that there is really no excuse for not teaching spelling with reasonable success.

Arithmetic. The four fundamental operations in arithmetic should be mastered before twelve years of age, and

mastered in such a way that the combinations can be given accurately and without hesitation. The mastery of the multiplication table, the division table, and the fundamental combinations of addition and subtraction can be acquired by the average child without any real difficulty. They all depend upon mechanical associations which need only sufficient repetition to fix them. To be sure it requires ingenuity on the part of the teacher to devise ways of securing sufficient repetition and at the same time to keep up interest. Drill, drill, and more drill is the keynote to success in mastering these mechanical details. To know how to drill successfully and maintain a white heat of interest means high art of teaching. To secure the absolute mastery of the fundamental operations in arithmetic before the grammar grades are finished means a saving of years of valuable time later on, when the mind demands real thinking and finds the drilling on mechanical combinations irksome.

In arithmetic there should be continued emphasis upon the fundamental mechanical operations, addition, subtraction, multiplication, division, and manipulation of easy fractions. Too often problems altogether too difficult in character are attempted, time is wasted on them, the problems are not mastered, and what might have been learned is neglected. I visited a school in which a fifth grade examination was in progress. The problems were abstract, complicated, and foreign in interest to the children. They were from the "miscellaneous problems in fractions." I noticed the children ducking their heads almost rhythmically to look under their desks. For what purpose? To look into their arithmetic books, and at what part? At the multiplication table! Here they were wasting their time trying to solve problems demanding maturity and failing

because of their lameness in the fundamental operations. The suggestion is obvious.

Arithmetic is one of the subjects which has been badly adjusted to the powers of the child. A great deal of arithmetic is so abstract that no child can master it until near the period of youth when the brain development makes the mind ripe for abstract thinking. On the other hand, those parts of arithmetic like the addition, subtraction, multiplication, and division tables, can be learned by mechanical memory, which is well developed and dominant by eight or nine years of age. These processes can be mastered better before twelve than ever afterwards. But frequently when the pupil enters the high school his knowledge of these elements of arithmetic is very inaccurate. Consequently he has hard work to learn processes that could have been mastered so easily before; and he is also deprived of the time for learning more abstract things. Because of the dominance of the sensory-motor functions preadolescent children can learn with interest and efficiency the needful denominate units. Through observation and handling of objective units of measure they learn naturally and easily the meaning of a foot, a yard, a pound, a dime, a dollar, and all the rest used in their everyday experiences. The problems given should also be chosen from life situations and made concrete through objective representation.

An excellent illustration is found in the waste of time from placing too much formal arithmetic in the primary grades of school. The experiment has been tried in many places of omitting all formal arithmetic work from the first two grades. Wherever it has been tried it has been found that children who have omitted formal arithmetic during the first two years are just as competent in arithmetic at

the end of the fourth school year as those pupils who have studied the subject four years.

Music. The elements of music should also be acquired in childhood. If the teaching of music could be stripped of its artificialities and presented in a natural way, every child would develop an appreciation of simple music and some skill in rendition. The beginnings must be made by appeal through the ear rather than through the eye and the child must learn to sing by ear rather than by note. Music is a natural and early language of the emotions and if the child is given a chance to hear good music, to imitate rather than to dissect it and analyze it, to make a joyful noise, to lift up his voice in gladness, praise, and thanksgiving, he will learn to appreciate and to produce.

Foreign languages. What an opportunity to learn foreign languages in childhood! The acquisition of a foreign language is child's play and not a man's work. There is wholesale evidence to prove that children can acquire a perfect mastery of two or three foreign languages besides a correct use of the mother tongue before ten years of age and not suffer from overwork. The facts come not only from cases of children with special tutors, but also from cases of foreign born children who came early to our shores and who learn one language in the home, another at school, and often one or two others on the street. Like music, language must be acquired through hearing it and then through vocal imitation, not by reading, dissecting, and studying the science of grammar first.

During the period of elementary schooling, pupils ought to be taught the foreign languages if they are ever to try to master them as spoken languages. Of course, at a later time the foreign languages may be pursued from the standpoint of the science of language and linguistics, but there is

no time like childhood for acquiring the spoken languages. Children can easily acquire two or three languages besides the mother tongue during the period of elementary schooling.

Geography, a great world panorama. Geography is splendidly adapted to the preadolescent period. If taught correctly it appeals to the senses and the imagination. The child is passing through an important sensory-motor period. There is no other time when he is more interested in gathering sense impressions of the big world about him. It is not a time for organizing, classifying, and dissecting, but of collecting and storing all manner of interesting materials. Excursions, field trips, visits to the museum, seeing the movies, the stereoscope, photographs, magazine illustrations—all should contribute their quota of sensory-imaginative material.

But this geography work should not be over-systematized. The particular bits of information acquired are of subsidiary value. The main criterion should be "Is it within the comprehension of the child and of interest to him?" Even the usually accepted idea that the method of study and knowledge of where to find things are of great importance is subordinate to the child's interest. If the pupils have developed a headway of interest and a curiosity to know more about their environment, near and remote, the chief value has been gained. With this momentum they will find out what geographical facts they need to know and the means and methods will have coupled themselves inseparably with the acquisition of the interesting things gained.

Great funds of facts should be gathered by pupils regarding their immediate environment. They should explore the fields, the forests, if possible, the seashore. They should climb the mountains and descend into the valleys; they

should know the highways and also the byways; they should see the ripple marks on the seashore; they should scale the mountain crags; they should see the shifting sand dunes and the ancient sedimentary rocks. Deep gullies and railroad cuts should reveal to them the successive geological strata; the striated rocks, the drumlins and the pebbles on the beach should all speak eloquently to them regarding mighty ancient rivers or the great ice age.

These preadolescent youngsters are keen to visit factories, to view the marts of commerce, to see the mighty electric railway engines with their mile-long trains laden with steel, automobiles, wheat, livestock, or manufactured products of the great industrial centers. They delight to see the great ocean liners swing into or out of our ports bearing their cargoes of silk, tea, coffee, tropical fruits, rare woods, or curios, from every corner of the globe.

When impossible to inspect through first hand observation, the modern means of visual instruction afford an almost perfect substitute. Marvellously illustrated books and magazines, like the *National Geographic Magazine*, portray almost every conceivable object of human interest. Then there are the projection machines affording views from every land and clime. And lastly we have the movies and the radio which bring us every evening the day's doings dramatized. The movietones now combine the hum of industry, the clatter of traffic, and the babel of human voices along with the action. The radio brings us auditory knowledge of the great events of the passing show. To-morrow we may be able to turn the switch on a vest pocket contrivance and see and hear at any instant our neighbors in Siam or Kalamazoo.

The preadolescent is alert to observe this passing, entrancing panorama. He will not understand it all, but he

should be enabled to absorb through keenly attuned senses what later, with maturer powers of reflection, may be interpreted in solving the great riddle of existence.

History, the drama of the past. Pupils below the junior high school are not psychologically and sociologically ready for any systematic study of the chronology of the world's events. Neither are they mature enough to understand or appreciate any systematic study of political or institutional history. They are, however, ready and eager to learn, especially through dramatic oral narrative by artistic teachers, the many simple, yet wonderful stories of human events.

In the elementary school the attempt should be made to select the great dramatic events that appeal to children and to present them other than as set lessons that have to be memorized, drilled, and examined. The history class should be looked forward to with eager anticipation as a delightful story hour. It should be supplemented with attractive, compelling books which the children delight to read. The teacher should not be especially concerned about chronological sequence or systematic causal connections provided the children are interested and can re-express with reasonable accuracy the simple materials heard or read. Interest is the prime consideration at this stage. Organization may come later. First implant something to be organized.

The content may be very diverse and scattered. Much should be in the nature of biography. The marvellous achievements of George Washington, Israel Putnam, Daniel Boone, Abraham Lincoln, Thomas Edison, Charles Lindbergh, the Wright brothers, Alexander the Great, Peter the Great, Queen Elizabeth, Christopher Columbus, or Cleopatra are all of absorbing interest to preadolescents. Such great inventions as the mariner's compass, the spinning

jenny, printing from movable type, gunpowder, the steamboat, the telegraph, the telephone, the automobile, the aeroplane, X-rays, wireless telegraphy, and the radio should furnish material for many a dramatic story. How people lived in the long ago, what they wore, what they ate, the houses they lived in, how they traveled, how they communicated, how their rulers were selected, how they fought, are all of interest to children if dramatically presented and not made examination bugaboos.

There is time enough for organized history later on. If they have acquired a real love for historical narrative, if they have found some of the enticing books and have formed a habit of reading them, the time will have been well spent. If they have had the dry-as-dust traditional textbook history and have developed an antipathy for it, the time will have been worse than wasted.

Civics and citizenship. This title should not awaken the image of a formal textbook on the constitution of the state and of the Federal Government. The less of the textbook and the less of formalism the better. This is the tribal stage of the child's development, the stage when he is ego-centric, even anti-social. His education in civics, in fact, the whole round of school activities should gradually unfold to him some of the relations, obligations, and duties, as well as rights and privileges of individuals toward his group. Civics should gradually civilize and socialize even pre-adolescents. That should be one test of its efficiency as a curricular instrument.

Through the everyday activities of the school room—and the home—children should come to realize the interdependence of each individual and the group to which they belong. Each one has his little part to play in promoting the welfare of the group. The welfare of the group in turn determines

the welfare of the individual. Through informal, yet definite, studies of other groups—the district, the village, the state—they come to realize what organized society means. Gradually they should come to feel that even they are factors and co-partners in those larger units of society. Specific enterprises like the post-office, the maintenance of highways, the support of schools, police protection, garbage collection, and health inspection may be studied as concrete illustrations of civic functions all about them. The object should be not mere information for examination display and promotion credits, but better citizenship, not only ultimate but immediate in their everyday relationship.

SELECTED REFERENCES

- BALDWIN, BIRD T. "The Physical Growth of Children from Birth to Maturity." *Studies in Child Welfare*. University of Iowa, 1921
- DUNN, ARTHUR W. "Civic Education in Elementary Schools as Illustrated in Indianapolis." U. S. Bureau of Education, *Bulletin*, 1915, No. 17
- HALL, G. STANLEY. *Adolescence*. Vol I., Preface and Chap. I. D. Appleton and Company, 1904
- HALL, G. STANLEY. *Youth, Its Education, Regimen and Hygiene*. Chap. I. D. Appleton and Company, 1904
- HUGHES, R. O. *Elementary Community Civics*. Allyn and Bacon, 1922
- KING, IRVING. *The High School Age*. Chaps. II, III, IV. The Bobbs Merrill Company, 1914
- NORSWORTHY, NAOMI and WHITLEY, MARY THEODORA. *The Psychology of Childhood*. Chap. XV. The Macmillan Company, 1918
- PRINGLE, RALPH W. *Adolescence and High School Problems*. Chap. II. D. C. Heath Company, 1922
- TERMAN, LEWIS M. *Hygiene of the School Child*, Rev. Ed., Chap. V. Houghton Mifflin Company, 1929
- TYLER, JOHN M. *Growth and Education*. Chap. XI. Houghton Mifflin Company, 1907

CHAPTER III

RECOGNITION OF THE PERIOD OF ADOLESCENCE

1. MEANING OF ADOLESCENCE AND PERIOD INCLUDED

In the recent literature of education the subject of adolescence has rightfully come to occupy a very large place. The word comes from the Latin *adulescentia* and was first used to designate the phenomena of growth in general. Medical authorities more recently have limited the term to indicate the period of accelerated human growth from puberty to complete maturity. It is characterized by marked acceleration in growth and the rapid development of all the functions of maturity. The period extends from about fourteen to twenty-five in males and from about thirteen to twenty-one in females. The period may vary from three to five years, depending upon race, family heredity, climatic conditions, and individual tendencies. In extreme cases some children enter the period of puberty, the first stage of adolescence, as early as ten years, while others are as late as fifteen or sixteen. These, however, are the exception and not the rule. There are marked differences among races.

Children in tropical regions become adolescent considerably earlier than those in the arctic or the temperate zones. Italian, Greek, and Spanish boys become adolescent at about twelve to fourteen while Scandinavian boys often do not mature until from fourteen to sixteen. In America there is such a mixing of races that maturity comes at an

age about midway between these extremes. A subsequent table indicates that girls in America become mature at about thirteen and boys at about fourteen.¹

2. RECOGNITION THROUGHOUT HISTORY

Tribal ceremonies. That the period has been universally recognized as full of mystery and a period of great metamorphoses is attested by the fact that it has been a world-wide custom even among savages to celebrate the advent of adolescence with feasts, ceremonies, mystic rites, and dances. Various tests of endurance, as tortures, prolonged fasting, excessive work, flagellations, lacerations of the flesh, burning and knocking out of teeth, are imposed by many tribes upon their youth just entering manhood and womanhood. Various religious ceremonies from the most cruel and primitive to the modern confirmation are of universal occurrence. The following quotations give illustrations bearing out the foregoing statement:

It was the custom among the Metlakatlans to confine for one month in an isolated cabin, girls when attaining the age of puberty, usually their thirteenth year. No one is allowed to see them during this time, and it is supposed they are away on a voyage to the moon or some other celestial abode, and at the end of the month they return to their people, amid great feasting and rejoicing. On these occasions, and when youth are initiated into the mysteries of Shamanism, dog-eating, devil-dancing, cannibalism, and the reckless giving away or destruction of property, occur.²

Pritchard says of the Patagonians:

A certain stage in the life of each girl is celebrated by a festivity in the camp. An ornamental *toldo* is put up temporarily for the girl's occupation, and the young men of the tribe march

¹ Cf.—Hall, Winfield S., in O'Shea, *The Child: His Nature and His Needs*, p. 300

² Wellcome, G. H. S., *The Story of Metlakatla*, Saxon, 1887, p. 7

around it singing, while the women howl, probably with a view of exorcising any evil spirit which may be lingering about the camp. The ceremony is followed by a feast, and the evening winds up with a dance. The men alone take part in this, and it consists in circling around the fire, pacing sometimes slowly and sometimes quickly. A few dance at a time, accompanying their movements by a constant bowing or nodding of the head, which is adorned with tufts of ostrich feathers. When one party is tired out, another takes its place.¹

The Far East. According to Hall, "Haddon describes many ceremonies of initiation of boys into manhood, such as are found throughout the greater part of the Melanesian and the Indonesian Archipelago. These begin when lads first show a sprouting beard. They are secluded in a tabooed spot in the bush, instructed in the moral code, social customs, and sacred legends, which a man must know, especially those connected with the totemic animal, plant, or object peculiar to the clan."²

Recognition by the ancient Greeks. In Greece very definite recognition was given to the difference between the period of later childhood and of adolescence. In Sparta after twelve years of age the boy's dress consisted of a single garment. Boys were made to endure greater hardships than before. To accustom them to hunger, meager amounts of food were given them. Foraging for more was permissible. Gymnastic training was central in the Greek scheme of education: running, jumping, and ball-playing for the younger boys; casting the javelin, throwing the discus, wrestling, and boxing for the older ones. Occasionally they were allowed to engage in the *pancratium* (a complete combat), a contest in which any tactics were permitted, such

¹ *Through the Heart of Patagonia*, Hesketh, New York, 1902, p. 92

² *Adolescence*, Vol. II, p. 239. Cf.—Haddon, A. C. *Head Hunters, Black, White, and Brown*, Methuen, London, 1901, Chap. iv *et seq.*

as kicking, biting, and gouging. Most of these contests were in the open air. Contestants would suffer death even rather than fail to do their utmost. The main purpose was to prepare for warfare and not to train athletes. The public exercises were often given in connection with religious ceremonies.

At fifteen, adolescent Athenian boys of the wealthier classes entered the *gymnasia* for their secondary training. The teachers were called *gymnastae*. The training was of a more severe character than before. The boys were given larger liberties, going wherever they pleased, into the agora, the courts, or the theater. Through discussion with older men they considered ethics, politics, and other phases of citizenship.

At about eighteen, on entering full manhood's duties, they were publicly introduced by the king (archon). Their names were entered upon the register of citizens, and armed with a shield and a spear and at the shrine of Allaurus, they took the oath of loyalty to the gods, the state and the Athenian traditions. The oath was as follows:

I will never disgrace these sacred arms, nor desert my companion in the ranks. I will fight for temples and public property, both alone and with many. I will transmit my fatherland, not only not less, but greater and better, than it was transmitted to me. I will obey the magistrates who may at any time be in power. I will observe both the existing laws and those which the people may unanimously hereafter make; and, if any person seek to annul the laws or set them at naught, I will do my best to prevent him, and will defend them both alone and with many. I will honor the religion of my fathers. And I call to witness Aglaurus, Enyalius, Ares, Zeus, Thallo, Auxo, and Hegemone.

Plato was a great boy-lover and his philosophical dialogues have youth for the principal characters. Dr. Hall says that of the "one hundred and ten characters, twelve

or fourteen are obviously adolescents."¹ Among the characters are Lysis, the shy, artless, and eager for knowledge; Christopher, crazy-brained and impetuous; Meno, full of sophistry; and Alcibiades, with the characteristic over-assurance and lack of foresight of youth. In fact all the prominent types are described. Plato makes Socrates the great teacher of youth, leading them from worldly things to real wisdom. His method is that applicable to youth and not childhood, though unfortunately it has been made to apply to childhood.

Roman recognition of adolescence. At the close of the period of education, at about seventeen, freeborn Roman boys and girls donned the toga praetexta, ornamented with the *bullæ aurea*. This badge was a symbol of honor and fidelity. At about sixteen they were clothed in the all white toga of manhood, the toga *pura*, toga *virilis*, *vestris pura*. Caligula assumed it in his nineteenth year. The age of eighteen was *plena pubertate*. On laying aside the *insignia pueritiae* the adolescent boy, accompanied by friends, went to the Forum. This was a symbol of his first public act and was called *tirocinium fori*. From then on the father was no longer responsible for his acts. With this freedom came manhood's responsibility.²

Ceremonials and observances at the present time. The most striking ceremonial in recognition of the advent of adolescence at the present time is the confirmation which is observed by several churches. This is a most significant occasion in the life of the child from the standpoint of the church.

Less definite in time and only irregularly observed are the "coming-out" parties when adolescent girls make their

¹ *Adolescence*, Volume I, p. 513

² Graves, F. P. *A History of Education: Before the Middle Ages*, pp. 151-167

debut in society. With the advent of puberty, accompanied by manifold physical and mental changes, the youth are treated in a new way by their families and by society. When the boy's voice begins to change from a childish treble to a falsetto bass and the down appears upon his cheek he is called "Mister" by strangers, is allowed to don a tuxedo and to go out alone at night. He is also given more responsibilities, often being required to earn his pocket money and even part of his schooling. The girl on approaching maturity is called "Miss," is allowed to dress like grown up women, to go out with a boy escort, and to take her place in society. She often, also, becomes a wage earner.

3. TARDY RECOGNITION AS AN EDUCATIONAL FACTOR

Treatment in the home. The physical and mental characteristics of youth during the period involved, are so striking and of such significance that the wonder is that it did not earlier come to be more seriously considered in educational theory. The period, of course, has been specially observed by parents, but the whole subject has been enveloped in mystery and, instead of being intelligently studied and treated, the very mention of the characteristics have been tabooed. Unintelligent parents have attributed the instability and vacillation of youth to pure meanness. No end of injudicious treatment has resulted purely through ignorance. High school teachers down to recent years have generally taught throughout their whole career without realizing the inherent peculiarity of the period of life with which they were dealing.

Recognition by educators. As an illustration of the lack of special knowledge and consideration given to the high school from the standpoint of the pupils, we may cite the discussions in the Department of Secondary Education in

the National Education Association. In the departments dealing with elementary education, there is much more evidence of a scientific pedagogy. An entirely random inspection of several recent programs revealed characteristic differences such as indicated in the following.

In the elementary section there was a good sprinkling of such topics as: "The Health of School Children," 1911; "Playgrounds and Health," 1911; "The Physiology and Psychology of Elementary Education," 1908; "Report on the Motivation of Children's Work in the Elementary School," 1911; "The Need of Standards for Measuring Progress and Results," 1912; "Suggestions from Cases of Unusually Rapid or Irregular Progress in Public Schools," 1912. From the kindergarten section: "The Development of the Color Sense," 1911; "Moral Instruction of the Child," "The Kindergarten as an Ethical Laboratory," "Motive for Work," 1907; "Home and School Life in Germany," 1908; "The Art Impulse: Its Early Forms and Relations to Mental Development," 1908.

But when we turn to the program of the secondary school department one has to hunt diligently for topics placing the youth in the front rank and the curriculum as secondary. Most topics completely reverse the order or, still worse, practically ignore the youth. Beginning with the famous "Report of the Committee of Ten on Secondary School Studies" in 1893, we have an almost unbroken series of topics relating chiefly to the curriculum or some of its components. The following are samples: "Report of the Committee on the Articulation of High School and College," 1912; "Report of the Committee on College Entrance Requirements in English," 1912; "The Place of Phonetics in High School German," 1912; "The High School Course

in General Science," 1912; "The Relation of the Suggested Geometry Course to the Manual Training Course in High School," 1912; "The Final Aim of Modern Foreign Language Study in Secondary Education," 1912; "Provisional Report of the National Committee on Geometry Syllabus," 1911; "Literary Appreciation in the Study of Foreign Languages: Its Opportunities and Limitations, with Special Reference to the Study of French," 1911.

It seems almost strange that this wonderful period of adolescence has only so recently come to be regarded as of great moment. When I was a student in the Milwaukee Normal School from 1888 to 1890 we never heard anything about child study or individual psychology or adolescence. A few years later while a student in the University of Wisconsin I heard almost nothing about child study or adolescence, although the University was one of the most progressive of the time. It had just established one of the few laboratories for the study of experimental psychology.

G. Stanley Hall launches a new movement. Just about that time the *Pedagogical Seminary* made its appearance, edited by Dr. G. Stanley Hall, the "Dean of the Child Study Movement." Dr. Hall became President of Clark University in 1887 and under his guidance a number of students began to publish monographs and articles on adolescence. Among the first important articles was one by Burnham on "The Study of Adolescence" which appeared in the first volume of the *Pedagogical Seminary*, and one by Lancaster on "The Psychology and Pedagogy of Adolescence," published in the fifth volume of the same magazine. Following the appearance of these pioneer articles, numerous articles and monographs on various phases of the subject appeared in the technical educational and psycho-

logical magazines. In almost every genetic study of childhood which was published, a comparison of the adolescent period with childhood was made.

In addition to the scientific articles great numbers of popular articles rapidly began to appear. In May, 1904, Dr. Hall published in book form the monumental work, "Adolescence," embodying the substance of the lectures which he had been developing through the previous fifteen years. It constituted, as Dr. Hall comments in the preface, "the first attempt to bring together the various aspects of its vast and complex theme." The importance which Dr. Hall attached to the subject may be best expressed in his own words:

As for years, an almost passionate lover of childhood and a teacher of youth, the adolescent stage of life has long seemed to me one of the most fascinating of all themes, more worthy perhaps than anything else in the world of reverence, most inviting study, and in most crying need of a service we do not yet understand how to render aright. Socrates knew that there was no such companionship or inspiration. In ministering to it the higher instincts of parenthood culminate and age renews its youth. This should make teaching the most humanistic, the noblest, the most satisfying vocation of man, as well as the surest safeguard against pessimism. These years are the best decade of life. No age is so responsive to all the best and wisest adult endeavor. In no other psychic soil, either, does seed, bad as well as good, strike such deep root, grow so rankly, or bear fruit so quickly or so surely. To love and feel for and with the young can alone make the teacher love his calling and respect it as supreme. That it may directly and indirectly help the young to exploit aright all the possibilities of the years from fourteen to twenty-four and to safeguard them against the above insidious dangers is the writer's chief desire.

SELECTED REFERENCES

- BROOKS, FOWLER D. *Psychology of Adolescence*. Houghton, Mifflin Company, 1929
- BURNHAM, WILLIAM H. "The Study of Adolescence." *Pedagogical Seminary*, Vol. I: 196-210, June, 1891
- HALL, G. STANLEY. *Adolescence; Its Psychology and Its Relations to Physiology, Anthropology, Sociology, Sex, Crime, and Religion*, 2 Vols. D. Appleton and Company, 1904
- HALL, G. STANLEY. "The Moral and Religious Training of Children and Adolescents." *Pedagogical Seminary*, Vol. I: 196-210, June, 1891
- HALL, G. STANLEY. *Youth; Its Education, Regimen, and Hygiene*. D. Appleton and Company, 1906
- HOLLINGWORTH, LETA S. *The Psychology of the Adolescent*. D. Appleton and Company, 1928
- LANCASTER, E. G. "Psychology and Pedagogy of Adolescence." *Pedagogical Seminary*, Vol. 5, No. 1
- PRINGLE, RALPH W. *Adolescence and High School Problems*. D. C. Heath and Company, 1922
- TRACY, FREDERICK. *The Psychology of Adolescence*. The Macmillan Company, 1920

CHAPTER IV

ANATOMICAL AND PHYSIOLOGICAL DEVELOPMENT DURING ADOLESCENCE

1. PURPOSE AND PLAN OF THE CHAPTER

A brief statement will be made of some of the physical and physiological reorganizations that are the most striking and the most significant in relation to the education of the adolescent. No attempt will be made to give an exhaustive account of these various phenomena. Those who wish such a treatment may readily find it in Hall's monumental treatise on adolescence and in other references cited.

2. ADOLESCENT CHANGES IN GROWTH

General recognition of acceleration. There has always been a popular recognition that growth is accelerated during the period of adolescence. Mothers have noticed that the boy's coat-sleeves suddenly creep toward the elbows, and trousers suddenly climb toward the knees. Teachers have noticed that pupils grew almost out of recognition over the vacation. Everywhere youths have been the butt of many jokes because of the "awkward age."

Recently physiologists and psychologists have gathered statistics of measurements to verify the popular notion. Because the statistics and graphs have referred to averages they have not told the story so strikingly as popularly supposed. Consequently several writers have discounted the

so-called saltatory theory of growth and have argued that growth is practically uniform through adolescence. This will be discussed more fully in a later chapter.

Changes in height and weight. Any tables of averages may be very misleading because there may be very great extremes so that no individual approximates the average. It is especially true in tables of growth because different individuals vary so greatly at a given age. There are different types as the tall, slim type, the short, thick-set type. Therefore the graphs obtained by measuring the growth at different ages are "smoothed" to such an extent that they do not present a true picture of growth at different ages. Even with these allowances, however, the statistics do show that adolescent growth in height and weight is more pronounced than during the period preceding or following. A study of the accompanying tables will confirm this view. The figures are taken from the tables compiled by Boas.

According to the table (V), during the four years of retardation ($8\frac{1}{2}$ to $12\frac{1}{2}$) the average annual per cent of increase in weight for boys is 8.95 per cent, while the average annual increase in weight during the four years of adolescent acceleration ($12\frac{1}{2}$ to $16\frac{1}{2}$) is 12.02 per cent. The average annual increase in height for boys during the corresponding years of retardation ($8\frac{1}{2}$ to $12\frac{1}{2}$) is 3.25 per cent, while during the three years of greatest adolescent acceleration the annual increase is 4.3 per cent.

Considering the growth changes in girls in a similar way we find that the average annual increase in weight during the years of lessened pre-pubertal rate of growth ($8\frac{1}{2}$ to $10\frac{1}{2}$) is 9.45 per cent, while during the three years of accelerated growth the average annual increase in weight, is 12.3 per cent. Height during the period of pre-pubertal retardation ($8\frac{1}{2}$ to $10\frac{1}{2}$) increases 4.10 per cent, and during

the years of greatest adolescent acceleration ($10\frac{1}{2}$ to $13\frac{1}{2}$) increases 4.23 per cent. (See Table V)

Individual growth curves. Baldwin studied many individuals each through a long period of time. He has brought together large numbers of individual curves of growth so

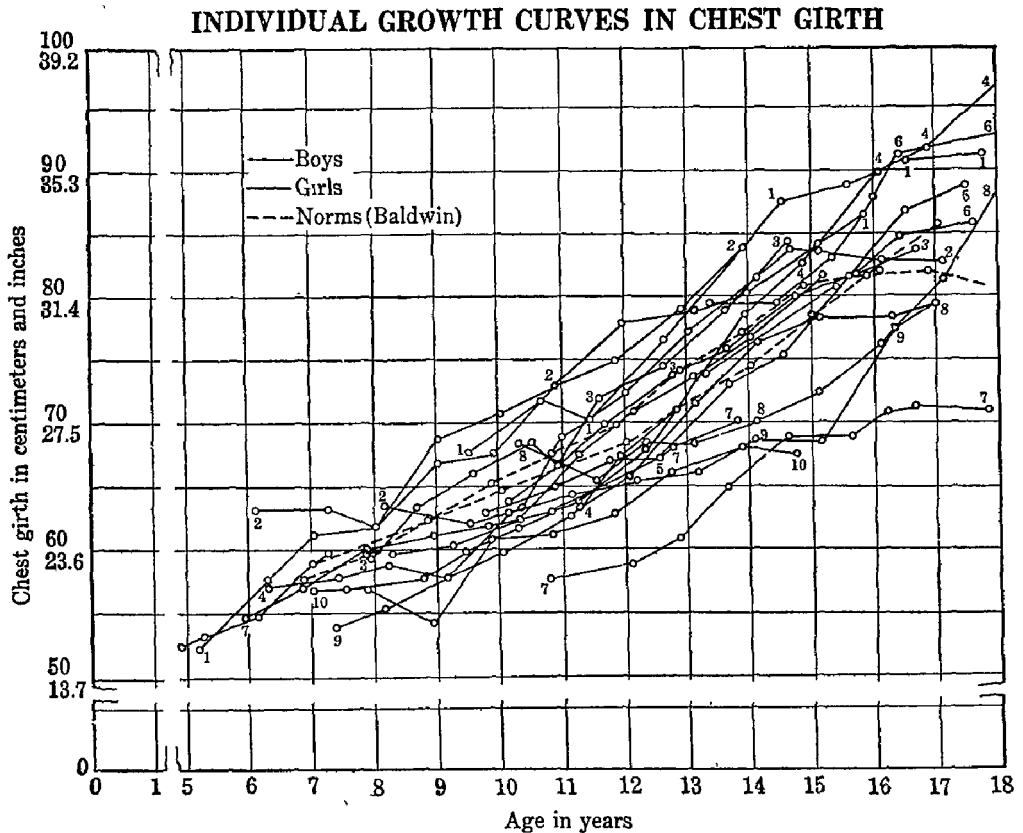


Figure 2

that comparisons of individuals may be made. This juxtaposition serves very well to bring out group tendencies as well and avoids the deceptive results almost inevitable in mass averages. On the 400 individual growth curves he makes the following general comments:

It will be noted from a general survey of the two groups of curves that the boys are, as a rule, taller than the girls, except

from approximately 12 to 13 years of age, on the average. The girls reach their maximum period of growth earlier than the boys.

INDIVIDUAL GROWTH CURVES IN WEIGHT

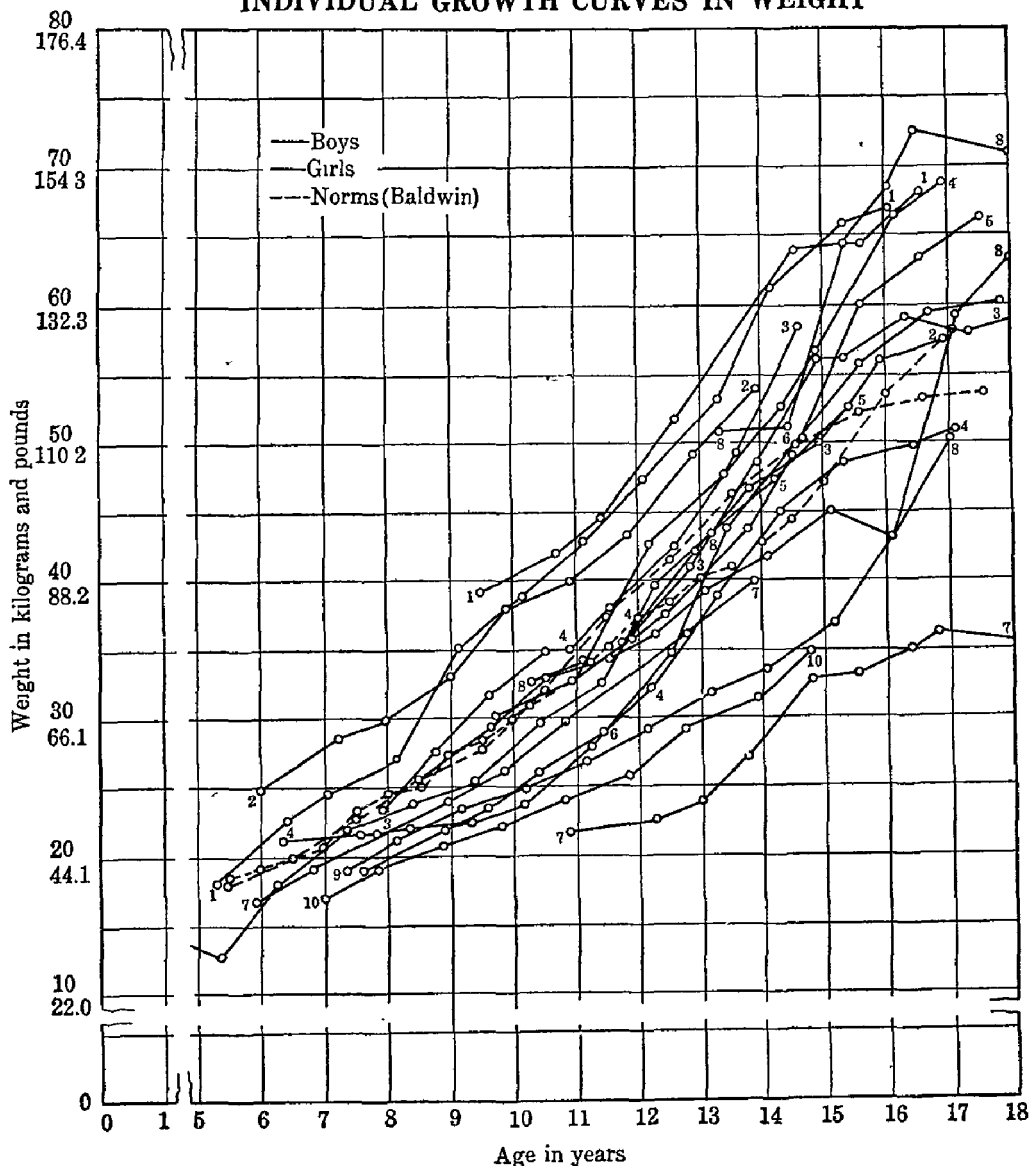


Figure 3

With both groups there is a tendency for the curves to fan out (spread apart) as the age increases. In both the boys' and the girls' curves there is a slight adolescent acceleration which appears

earlier for the girls than for the boys, with a slight retardation before this pubescent acceleration. For both boys and girls at the preadolescent period, the pubescent acceleration causes the curves to approximate in appearance a series of concentric arcs of varying sizes, where a chronological point, say 12 years, in the lower arcs, is reached later than a corresponding point in the upper arcs. . . . Girls, as a rule, are relatively heavier for their height than boys. The individual weight curves show that the preadolescent acceleration in weight precedes, as a rule, the acceleration in height, and that this stage in development is earlier for tall boys and tall girls.¹

A few of Baldwin's individual growth curves are reproduced in Figs. 2, 3.

Continued records on same groups needed. Statistics on the growth of children have usually been taken on different children for different ages. For example, one group of six-year old children have been measured and *another* group of seven-year old children, *another* group of eight-year olds, and so on. While such average measures and comparisons have values, it must not be assumed that they represent the actual growth of any children at different ages and stages. Measurements of the same individuals at successive ages and stages are much more significant. Of course, they are harder to secure. A few such studies have been made and others are now in progress. Baldwin has made such studies at Iowa. Dearborn at Harvard has under way a twelve-year program. Hall reports one.

Development of the heart and arteries. No other phenomena of physical growth during adolescence with the exception of the maturation of the powers of sex seem to have so much significance as the accelerated growth of the heart. At birth the heart is relatively heavy and grows very rapidly for the first six years. It practically doubles

¹ *The Physical Growth of Children from Birth to Maturity*, p. 72

in weight during the first two years, and again more than doubles by the age of seven.

During the next seven years, between the ages of seven and fourteen, its increase is still slower, adding about two-thirds of its volume at seven. During puberty the heart enlarges as much as during the preceding seven years.¹

TABLE V
SHOWING PREADOLESCENT RETARDATION AND ADOLESCENT
ACCELERATION OF GROWTH IN HEIGHT AND WEIGHT

BOYS			GIRLS	
Ages	Average Annual Increase	Average Per Cent of Increase	Average Annual Increase	Average Per Cent of Increase
HEIGHT				
5½—8½	2.36 in.	5.40	2.13 in.	4.90
8½—12½	1.65 in.	3.25	a 2.00 in.	4.10
12½—16½	2.4 in.	4.3	b 2.26 in.	4.23
WEIGHT				
6½—8½	4.6 lbs.	9.8	4.5 lbs.	9.95
8½—12½	5.6 lbs.	8.95	c 5.2 lbs.	9.45
12½—16½	11.02 lbs.	12.02	d 9.6 lbs.	12.3

a. Ages 8½—10½; b. Ages 10½—13½; c. Ages 8½—10½;
d. Ages 11½—14½

With the onset of adolescence the heart nearly doubles in size. Sometimes this increase is well distributed, and at other times it all comes within a year or two. According to Dr. Pitt:

The area of the pulmonary artery grows from 52 sq. mm. at the age of thirteen to 61 sq. mm. at fourteen, and the volume of the heart from 120 to 215 c.cm. during the same year. While the heart during its most rapid growth in the first year of life increases only 15 to 16 c.cm., during puberty it increases from 95 to 115 c.cm.²

¹ Tyler, *Growth and Education*, p. 82

² Hall, *Adolescence*, Vol. 1, p. 254

Because of the greatly increased pumping power of the heart and the relatively reduced size of the arterial system great physical tension is produced which doubtless has an important reflex effect upon the emotional life. The mental effect is not consciously recognized but undoubtedly the tension is responsible for much of the instability, irritability, and restlessness of the adolescent period. The youth does not realize it, his parents and teachers do not understand it, and consequently he is frequently entirely misunderstood by himself as well as by society. Doubtless certain behavior, misinterpreted as intentional revolt against established laws and usages, becomes the starting point of crime.

Growth of lung capacity was studied by Smedley in the Chicago schools¹ by means of the wet spirometer tests. He found that the vital capacity of girls increased most rapidly from 11 to 14, and of boys from about 12 to 16. It ought to be remembered here as of special pedagogical import that the vital capacity of both boys and girls who engaged in physical exercises was in marked contrast to those who were sedentary. He concludes that "vital capacity increases and decreases with the amount of one's activity, and, so, in connection with size, is an index of the rate of metabolism."

Leslie I. Reed, one of the writer's students,² found that the differences between lung capacities of boys and girls was greatly augmented during adolescence and also that exercise plays a most important role in determining lung capacity. Reed found that the period of greatest variation in lung capacity seems to be at about 15 in girls and about 16 in boys. Smedley arrived at similar conclusions. The latter shows a range of variations from 2400 to 4200 cubic

¹ Report of the United States Commissioner of Education, Vol. I, 1902: 1101-1103

² Unpublished master's thesis

centimeters. Baldwin's researches emphasize the same conclusion. He measured the breathing capacity of large numbers of boys and girls. He says:

These curves, like those of weight, tend toward concavity. (That is, there is the preadolescent retardation and the adolescent acceleration, producing a concave appearance in the curves.) There are more individual variations than for height and in general, the larger children have greater breathing capacity than the smaller ones. As in the case of weight, these measurements may fall below previous records, and the elements of training and exercise play important parts. The girls as a group show a smaller breathing capacity than do the boys. The girls reach their periods of cessation of growth before the boys. The boys' curves show more concavity during the preadolescent age than do those of girls, and the general shape of the curves differs. When the large number of possibilities is considered, the curves of breathing capacity show relatively little crossing.¹

Muscular development. Great changes of muscular size and power are experienced during adolescence. While at the age of eight the muscles of the boy constitute 27.2 per cent of the entire weight of the body, at fifteen 32.6 per cent is muscular tissue, and by sixteen, muscular growth has jumped to 44.2 per cent. This is nearly the maximum for at twenty-six only 45 per cent of the body is muscle.

Ergographic tests also reveal the waxing of muscular tissues with the beginning of adolescence. Dr. Smedley found that in strength of grip of right hand the maximal rate of increase for girls in Chicago is from eleven to thirteen; for boys, from twelve to sixteen.

In Quetelet's table the greatest annual increase for boys' right hand is from fourteen to fifteen, and the next greatest increase is the year before and the year after, but with a continued but diminishing rate of increase to thirty. Kotelmann's table ends at fourteen, but the greatest increase is the last year shown.

¹ Op. cit., p. 77

Pagliani found the greatest increase from thirteen to fourteen years, but with marked annual increase to nineteen, when his table ends. Porter found the maximal increase from fourteen to sixteen. . . . In general, we can say that boys almost double their eleven-year-old strength of dynamometer grip by the time they are sixteen. This is nearly the case with girls. Neither will ever double again, but boys will more than treble their eleven-year-old strength and girls will not.¹

Other varieties of strength tests, such as strength of arms, strength of back, and general lifting powers, all show great accelerations at adolescence. Likewise power of endurance is greatly accelerated at this period. Smedley's tables show that for girls endurance increases most rapidly from twelve to fourteen and for boys from twelve to fifteen. Experiments in endurance and fatigue, as tested by tapping with the finger, show that the fatigue is greatest at eight years and the maximum power of resistance is reached at fifteen. A perusal of Baldwin's graphs² representing studies of strength of forearm and strength of upper back confirm all the foregoing conclusions.

Development of the brain. While we know much about the size and architecture of the brain and the nervous system and also know that all life processes, physical and mental, are intimately connected with neural processes, yet we are appallingly ignorant of the exact relation between neural development and functioning and mental development and functioning. The few main well-established facts will be epitomized here.

As before stated, at birth the brain of the average individual weighs a little less than a pound (about 13 ounces). By the end of nine months it has about doubled in weight; by the end of the third year it has about trebled; and by

¹ Hall, *Adolescence*, Vol. I, p. 140

² Op. cit., pp. 89 *et. seq.*

the end of the sixth year it has reached nearly adult size. At birth, according to Vierordt, the brain is 12.29 per cent of the body while in adult life it is only 2.15 per cent. After the age of seven while there is only a slight increase in weight of the brain there is a very great increase in efficiency. Donaldson says:

Medullation begins in the cord and spreads to the encephalon, the local mechanisms in the cord being functional before the connections between them and the higher centers are completed. In general, the elements first developed become largest in size, and since the most necessary functions presumably are those for which provision is earliest made, the relative size of the nerve elements in a given animal points to the degree of their physiological value.

Although our knowledge of the interrelation between brain development and mental development is confessedly meager, the following conclusions seem warranted. During the first six or seven years while the brain is developing in size mental development is largely in the first level and predominantly sensory-motor. The second period from seven to about thirteen is characterized by Clouston as a period of coördination of sense perception, motion, and emotion. The third level, including the period of adolescence, is one in which the association fibres are developing rapidly and medullation is being completed. These last phenomena are at least coexistent with the rapid development of reasoning and abstract thinking. In all probability they are anatomically and physiologically foundational for them.

Education must fail to produce any fundamental changes in the nervous organization, but to some extent it can strengthen formed structures by exercise, and in part waken into activity the unorganized remnant of the dormant cells. No amount of cultivation will give good growth where the nerve cells are few and ill-nourished, but careful culture can do much where there are those with strong inherent impulses towards development. On neurological grounds, therefore, nurture is to be considered of much less importance than nature, and in that sense the capacities that we most admire in persons worthy of remark are certainly inborn rather than made. . . .

In all cases the process of education must be much influenced by mental ripening. The child may be precocious or backward. It is interesting to note, apropos of what has been said concerning strength and size, that precocity is for the most part concerned with an early increase in the complexity rather than the strength of the reactions; it is a precocity of organization, not of size. Moreover, it is apt to appear along limited lines only.¹

Tyler comments:

Professor Donaldson has compared the mature portions of the child's brain to islands physiologically separated from one another. But the straits separating these physiological islands must be bridged or underlaid with cables before any real thinking can be done. The highest part of this work is probably performed by the association fibres of the cortex, whose centres seem to be seats of thought. These fibres are the last to become medullated. Many of them do not mature until adult life, some even after thirty. Hence the logical and other intellectual powers of the child are weak. It is during adolescence that the youth begins to appreciate and delight in argument.

Everywhere in the nervous system we find steadily increasing complexity. First come the simplest reflexes, then the more complex. The sensory centres mature separately, then the motor; then these become connected with one another. Thus the best and most efficient brain is not necessarily the largest and heaviest, but the one in which the largest possible number of the very best connections has been made in infancy and childhood.²

Interests conditioned by brain development. There is a very close correspondence between the development of the brain and the appearance of interests. If we wish to know what parts of the brain are ready for exercise the appearance of interests will furnish the most reliable guide. During the period when the sensory-motor centers are maturing, the child is interested in seeing, hearing, handling concrete objects and in muscular activity. If we attempt to force

¹ Donaldson, *Growth of the Brain*, pp. 233-352

² Tyler, *Op. cit.*, p. 72

upon him the abstractions of arithmetic, grammar, and science, only aversion will result. Later when the association fibers and medullation of the nerve elements in the encephalon have developed, reasoning in arithmetic, and the psychological discriminations required in grammar and the sciences will become more prominent. This is the time for the cultivation of those abilities.

Changes in bodily proportions. Not only is there phenomenal increase of size of body and expansion of power but frequently entire changes in proportion occur. At maturity the head is twice as long as at birth; the body at maturity is three times as long as at birth; the arms four times and the legs five times as long. Not seldom a youth who has resembled one parent throughout childhood is so completely metamorphosed as to resemble the other parent or even some more remote relative. It cannot safely be predicted that the babe who is "a perfect image of its father" will bear perfect resemblance to him throughout life. The child who is lean, lank, and spindling may be the short, thick-set adult; and the chubby babe be the tall, slim individual. The pug-nosed babe may be the very one to possess a most ample proboscis; even color of eyes may undergo considerable modification. Baldwin's very careful and long-continued measurements of the same individuals at successive intervals of time, however, indicate that such great changes of type in a given individual are not the rule. He remarks, for example, that:

Tall children at any age remain relatively tall under normal conditions. Growth in height is so comparatively uniform for each individual that the growth curve enables one to prophesy with a high degree of accuracy how tall a young child will be at subsequent years.¹

¹ Op. cit., p. 92

He recognizes, on the other hand, that growth curves sometimes "show significant but unexplained fluctuations." Many of his individual curves show the same "significant but unexplained fluctuations."

Danger of adolescent overstrain. Hall remarks that:

Excessive strain and tension at this period tend to various curvatures, lordosis, scoliosis, so that too high pillows, sleeping in one position, ill-adjusted seats at school or on the bicycle, lacing, occupations that strain, confine or require unnatural postures, are especially to be avoided at this age. It is necessary that the muscles should be used enough to keep them both flexible and growing with the bones, so that insufficient muscular development be avoided. They should not, however, be used enough to cause contractures for unequal or abnormal tensions may warp the bones. Children should never be made to feel ashamed of their height, which they often form crouching habits to conceal, but should be proud of it and stand and sit erect as possible, and habitual cross-legged attitudes should be avoided.¹

A few months are sufficient for him to become a whole head taller, and a year is often a sufficient period for him to shoot from boyhood proportions to manhood's complete stature. In this connection educators should be warned against the overtraining in athletics. They should heed Aristotle's observation that individuals were rarely winners in the Olympian games both as boys and as men. Overtraining in youth eliminated them as contestants in manhood.

Development of sex characteristics at adolescence. The great outstanding phenomena of adolescent development relate to sex. All other phases of growth and development for the time being become subordinate to the unfoldment and flowering of sex functions. Not only is the youth's whole individual future determined by the character of this important stage of growth, but the weal or woe of society

¹ Hall, *Adolescence*, Vol. I, p. 82

are largely dependent upon it also. Sex is nature's means of perpetuating the species. The family has been evolved as a means of caring for the young. Through adult ministrations to the helpless and immature, the higher instincts of protection, pity, sympathy, altruism, and love have been evolved. Without these nobler impulses organized society would have been impossible. Should they atrophy, society would be annihilated. Consequently how vastly important the period of adolescence for the very preservation of organized society. To help unfold normally, to guide wisely, and to educate the adolescent to nobility constitute the highest objectives of education.

While sex organs and functions gradually develop from earliest childhood every structure and every function assume new proportions and new significance. The sex organs enlarge very rapidly and change in appearance externally and internally. Pubescence becomes evident rapidly. The boy's voice changes from the childish treble to the deep tones of manhood almost over night. His beard begins to sprout and shaving is in order. His chest enlarges, his shoulders broaden, his height and weight increase strikingly, his muscles harden, and he takes on the appearance of a man instead of a boy. Similar modifications are taking place in the girl. Her figure becomes rounded, the proportions change, the breasts develop, the hips enlarge, the pelvis widens, the internal organs of reproduction increase and become profoundly modified, pubescence appears, the menses are established. She becomes a woman instead of a girl, sometimes so suddenly as to frighten her and astonish even her parents.

Recent researches have demonstrated that coincident with the advent of puberty the gonad glands of both male and female secrete "hormones" or "life ferments" as they

have been called. These are absorbed into the lymph and blood and exert a profound influence upon the individual. If the gonad glands are removed by castration the distinctive qualities of virility of the man or those of the femininity of the woman disappear. Similar conditions are well known in regard to animals. In the man the best illustration of the profound change is in the case of the flabby-muscled, cringing eunuch. Not only are physiological processes entirely changed but mental life as well. These remarkable influences revealed by the removal of the hormones suggest that sex must be one, if not the great dominating factor in adolescent development. No discussion from a medical point of view of the hygiene of sex life in adolescence will be attempted here. It deserves a volume by itself. Subsequent chapters in this volume treat the subject indirectly and from a pedagogical point of view. The whole thesis is an effort to show how education during adolescence should seek to preëempt the minds of youth with activities and ideals that shall divert them from the low level of primal instincts to higher levels of rational ideals, emotions, and moral behavior. Through deployment and sublimation they may be elevated, even as the race has gradually risen to the stature of humanity. There are still vastly higher levels yet to be attained!

The various glands that seem to exert a considerable influence upon adolescent development include the thyroid, the parathyroid, the suprarenal, pineal, and the pituitary. Physiologists have been making a study of the effects produced by extracts of these various glands. Doubtless growth is somewhat conditioned upon the normal functioning of each of them. However, there is too much of uncertainty and hypothesis regarding their exact functions to

warrant any final statements. Much more research is needed.

Concerning the far-reaching influence of the reproductive glands, however, no uncertainty exists. They are central in the entire physical and mental life of adolescents of both sexes. Individuals deprived of these glands suffer a complete change in many physical characteristics such as beard, bodily form, and voice. The psychological effects seem even more striking. The normal growth, development, and healthful vitality of the reproductive system is the pivotal objective in the life of every adolescent. Under-development, hypertrophy, or malady of any phase of sex development depreciates the possibilities of a normal, happy, successful life and may blast all future success. All adolescent education should be centered around the normal unfolding of a sane and healthful sex life.

Physiological age. By physiological age is meant the degree of physiological maturity of an individual. There may be a great difference between the chronological age and the physiological age of the child just as there may be a great difference between the chronological age and the mental age. There seems to be a high correlation between physiological age and mental age. From the standpoint of education it is more important to know the physiological and mental ages of children than their chronological ages. Physiological and mental maturity determine much more than the number of years lived the kind of progress the child may be expected to make in school.

In this section the discussion will be limited to the correlation between chronological age and physiological age. Facts will be presented regarding the chronological ages at which puberty or sex maturity is attained. "The term

puberty," says Dr. Winfield S. Hall,¹ "is applied to the period of three or four years during which a youth becomes established in the development and functioning of the sex apparatus * * * The post-puberty phase of adolescence is devoted to the maturing physical organs and tissues and the training of their powers."

The technique of determining the time of the beginning of puberty has not been very exactly worked out. No method has been established of knowing exactly the date of the earliest secretion of the spermatozoa and ova. Baldwin did much work on new methods of determining. The usual criteria regarding the physiological maturity of boys has been the change of voice, the appearance of hair in pubic and axillary regions, and the external changed appearance of the reproductive organs. In the case of girls reaching physiological maturity the criteria usually regarded are the appearance of the first menstruation, enlargement of the breasts, the development of subcutaneous fat, the widening pelvis, enlarging hips, and the appearance of pubic and axillary hair.

Judging by these criteria Crampton² made his classical investigation regarding the physiological ages of nearly four thousand grammar school and high school boys in New York City. The table representing his findings is subjoined. A similar table is copied from Baldwin's³ more recent investigation regarding the physiological age of grammar school and high school girls. (See Table VI)

All the tables indicate that there is considerable variation as to the time of the beginnings of puberty. This is what

¹ O'Shea, *The Child: His Nature and His Needs*, p. 301

² Crampton, C. W. "Physiological Age—A Fundamental Principle." *American Physical Education Review*, March, 1908, Vol. XIII, p. 150

³ Baldwin, Bird T. "A Measuring Scale for Physical Growth and Physiological Age." *Fifteenth Yearbook of the National Society for the Study of Education*, 1916, Part I, p. 17

might be expected. Individual differences may be found in any trait and in any species. Baldwin comments as follows:

These data show that among children who are best developed from a physical point of view, there is no fixed age for physiological development as evidenced by the advent of pubescence or first menstruation. Adolescence does not begin at the same

TABLE VI
APPEARANCE OF PUBESCENCE IN 3825 BOYS AND 760 GIRLS

Boys ¹		Girls ²	
Ages	Per Cent	Ages	Per Cent
12.25	16	10	0 0
12.75	25	10.5	6.25
13.25	26	11.0	0.0
13.75	28	11.5	19.23
14.25	28	12.0	37.03
14.75	24	12.5	23.88
15.25	20	13.0	34.88
15.75	10	13.5	37.87
16.25	4	14.0	38.46
16.75	4	14.5	17.74
17.25	2	15.0	14.54
17.75	0	15.5	7.81
		16.0	6.12
		16.5	3.17
		17.0	0.0

chronological age for all normal boys or for all normal girls, physiologically speaking. Children, boys or girls, may be of the same chronological age between $10\frac{1}{2}$ and $16\frac{1}{2}$ and differ in physiological age from one to four or five years and still be normal in physical development. The norm for pubescence is a distribution range, not an average chronological age. At no age do as many as 40 per cent of the groups mature. There is a range in

¹ Crampton, C. W. "Physiological Age — A Fundamental Principle." *American Physical Education Review*, Vol. XIII, p. 150

² Baldwin, Bird T. "A Measuring Scale for Physical Growth and Physiological Age." *Fifteenth Yearbook of the National Society for the Study of Education*, Part I, p. 17

ages from 10 to 17 years for the age of first menstruation for normal girls. The girls from the smaller city (11,000) population mature earlier than those from Chicago and New York, the median ages begin respectively 13 years eight months, 13 years seven months, and 13 years nine months. This conclusion substantiates the similar condition found for boys.¹

SELECTED REFERENCES

- BALDWIN, BIRD T. "Physical Growth and School Progress." U. S. Bureau of Education, *Bulletin*, No. 10, 1914
- BALDWIN, BIRD T. "Relation Between Physical and Mental Growth." *Journal of Educational Psychology* (April, 1922), 13: 193-202
- BALDWIN, BIRD T., and STECHER, LORLE I. "Mental Growth Curve of Normal and Superior Children." University of Iowa *Studies in Child Welfare*, Vol. 2, No. 1, 1922
- BALDWIN, BIRD T. "A Measuring Scale for Physical Growth and Physiological Age." *Fifteenth Yearbook of the National Society for the Study of Education*, Part 1, 11-12
- BALDWIN, BIRD T. "The Physical Growth of Children from Birth to Maturity." University of Iowa *Studies in Child Welfare*, 1921
- BIGELOW, MAURICE A. *Adolescence—Educational and Hygienic Problems*. Funk and Wagnalls Company, 1924
- BOWDITCH, HENRY P. "The Growth of Children Studied by Galton's Percentile Grades." *Twenty-second Annual Report*, Massachusetts State Board of Health, 1890, pp. 479-525
- BOAS, FRANZ. "The Growth of Toronto Children." *Report of the U. S. Commissioner of Education*, 1896-97, pp. 1541
- BROOKS, FOWLER D. *The Psychology of Adolescence*. Chaps. II, III. Houghton Mifflin Company, 1929
- BURK, FREDERIC. "Growth of Children in Height and Weight. *American Journal of Psychology*. April, 1898, pp. 253-326
- CRAMPTON, C. WARD. "Physiological Age—A Fundamental Principle." *American Physical Education Review* (March—June, 1908), Vol. 13
- DONALDSON, HERBERT HENRY. *The Growth of the Brain*. Charles Scribner's Sons, 1900
- DOUGLASS, AUBREY A. *Secondary Education*. Houghton Mifflin Company, 1927

¹ Op. cit., p. 191

- HALL, G. STANLEY. *Adolescence: Its Psychology and Its Relations to Physiology, Anthropology, Sociology, Sex, Crime, Religion, and Education*. 2 Vols. D. Appleton and Company, 1904
- HALL, WINFIELD S. "Changes in the Proportions of the Human Body During the Period of Growth." *Journal of Anthropological Institute of Great Britain and Ireland*, 1895
- KOOS, LEONARD V. *The American Secondary School*. Ginn and Company, 1927
- KOOS, LEONARD V. *The Junior High School*. Ginn and Company, 1927
- MURDOCK, KATHERINE, and SULLIVAN, LOUIS R. "Some Evidences of an Adolescent Increase in the Rate of Mental Growth." *Journal of Educational Psychology* (September, 1922), Vol. 13: 350-356
- PECHSTEIN, LOUIS A. and MCGREGOR, LAURA. *Psychology of the Junior High School Pupil*. Houghton Mifflin Company, 1924
- PORTER, WILLIAM R. "Growth of St. Louis Children." *Report, Academy of Science of St. Louis*, Vol. VI, pp. 263-380
- PECKHAM, GEORGE W. "The Growth of Children." *Sixth Annual Report, Wisconsin State Board of Health*.
- THORNDIKE, EDWARD L. "On the Improvement in Intelligence Scores from Fourteen to Eighteen." *Journal of Educational Psychology* (December, 1923), 14: 513-516
- TYLER, JOHN M. *Growth and Education*. Houghton Mifflin Company, 1907

CHAPTER V

ACCELERATED ADOLESCENT GROWTH

1. THE PROBLEM STATED

A debated question. A good deal of debate has been engaged in as to whether adolescent changes take place rapidly or gradually and uniformly. One theory assumes that development at adolescence is zig-zag and not uniform in rate but that many changes take place so much more rapidly at a given time than during the preceding period or the one following that the changes may be characterized as sudden. This theory is frequently termed "the theory of saltatory development" (Latin *saltare*—to leap, to proceed by leaps). The opposing theory maintains that growth and development are essentially continuous and gradual. The apparently sudden changes, it is maintained, have been going on for a long time even though unnoticed. This is known as "the theory of gradual and uniform development."

Diverse opinions quoted. To illustrate how the question has been regarded by those with opposite views, a few typical opinions will be quoted. Burnham wrote:

Physiological changes. Everybody is familiar with the more obvious changes that occur at this period. The reproductive organs increase in size, the larynx enlarges, the vocal cords become elongated, the volume of the heart is increased. . . . Probably equally important changes occur in the brain; for the shape of the head changes, and new intellectual and emotional activities of this period must be accompanied by the functioning of the cerebral centres that have lain dormant before. This is, moreover, a period of specially rapid growth in both sexes.

Psychological changes. The psychological changes at puberty are no less remarkable. There is a great influx of new sensations. The brain, aroused by these new stimuli, increases in activity. The psychic concomitant of this increased cerebral activity is manifested in a variety of ways. The adolescent mind is filled with hopes, dreams, tempestuous passions, and new ideas. Social and ethical impulses become dominant; egoism often gives place to altruism. Political or religious zeal sometimes become the mainspring of action. The reasoning powers come into use.¹

Hall emphasized the same ideas in the following words:

Adolescence is a new birth, for the higher and more completely human traits are now born. The qualities of body and soul that now emerge are far newer. The child comes from and harks back to a remoter past; the adolescent is neo-atavistic, and in him the later acquisitions of the race slowly become prepotent. Development is less gradual and more saltatory, suggestive of some ancient period of storm and stress when old moorings were broken and a higher level attained. The annual rate of growth in height, weight, and strength is increased and often doubled, and even more. Important functions previously non-existent arise. Growth of parts and organs loses its former proportions, some permanently and some for a season. . . The range of individual differences and average errors in all physical measurements and all psychic tests increases. Some linger long in the childish stage and advance late or slowly, while others push on with a sudden outburst of impulsion to early maturity. . .

In adolescence, individualism is suddenly augmented and begins to sense its limits and its gradual subordination to the race which the Fates prescribe. . . . At adolescence each of the senses undergoes certain characteristic changes of structure, function, or both. Interests change and with them the organs of apperception, so that aspects and elements different from those hitherto absorbing the complex but already familiar objects of sense become foci of attention. . . . The mind at times grows in leaps and bounds in a way that seems to defy the great enemy,

¹ Burnham, W. H., "The Study of Adolescence." *Pedagogical Seminary*, Vol. I, 1891, pp. 175-76

fatigue, and yet when the teacher grows a little tiresome the pupil is tired in a moment.¹

Conclusions from general observation. Recently I asked a class to tell me whether common observation would justify the conclusion that growth is uniform or accelerated at adolescence. The two following statements are typical of the replies. One wrote:

If one were to ask the opinions of any number of parents concerning these theories, they would almost with one accord tell how their children at a certain age began suddenly to grow physically from childhood into youth, and almost over night became men or women. They would tell of sudden spurts of growth, and could probably say, with almost absolute accuracy, the time when the boy suddenly lost his boyhood docility, and began to assert himself, and (with some pathos) the mothers would recall how they had lost a boy and gained a man.

In the same way, if one were to ask a large number of high school principals the same question, as the writer did, he would receive substantially the same answer. He would probably find even a somewhat tolerant but contemptuous attitude toward the swivel chair scientists who differ from this opinion. They would refer you to the storm and stress characteristics, the runaway tendencies, the puppy love onset, and other characteristics in proof of their contentions.

A second one wrote:

I have taught classes in all the four years in high school for a good many years and how anyone can deny the saltatory view of physical growth is more than I can understand.

Thorndike has been the most radical opponent of the saltatory theory. His opinion is voiced in the following statement:

It is a favorite dictum of superficial psychology and pedagogy that instincts lie entirely dormant and then spring into full

¹ Hall, G. S., *Adolescence*, Vol. I, Chap. XIII, Vol. II, pp. 58-453

strength within a few weeks. At a certain stage, we are told, such and such a tendency has its "nascent period" or ripening time. . .

These statements are almost certainly misleading. The one instinct whose appearance seems most like a dramatic rushing upon life's stage—the sex instinct—is found upon careful study to be gradually maturing for years. The capacity for reasoning shows no signs by any tests as yet given of developing twice as much in any one year from five to twenty-five as in any other. In the cases where the differences between children of different ages may be taken roughly to measure the rate of inner growth of capacities, what data we have show nothing to justify the doctrine of sudden ripening in a serial order.¹

King² maintains that the so-called periods of life exist largely in the mind of the observer. There are no abrupt shifts in intelligence, morality, or religious beliefs. All have their beginnings in early childhood and develop gradually up to maturity. Even physical growth is uniform and continuous. He admits that youth is a transition period but no more so than any other season of life. In case of apparent abruptness nature has been long preparing for the change.

2. SOME ANALOGIES OF GROWTH IN PLANT AND ANIMAL LIFE

It is entirely possible that the abruptness of the changes has been exaggerated but even allowing for exaggeration has there not been a large measure of correctness in assuming rather striking changes? In the discussion that follows, in order to avoid the appearance of personal bias and dogmatizing, quotations from well-known authorities will furnish the bulk of the material. From personal observation and a great mass of factual evidence, the conclusion seems

¹ Thorndike, E. L. *The Original Nature of Man*, pp. 260-61

² *The High School Age*

to me clear and inescapable. However, others will be allowed to make most of the argument through the data assembled.

A study of some analogies of growth may help us to understand the probability of striking changes in human growth. Think of the stages in the growth of corn. When the farmer plants the grain of corn in the ground it lies apparently dormant for some days before any sign of change takes place. Gradually the grain swells, the rootlets grow downward, the stalk seeks the light, and we say the corn is "springing up!" After its initial appearance, however, it makes rather slow headway for some weeks, so much so that if uncultivated the weeds would smother the tiny plantlets. Then, as the farmer boy knows, the blades begin to broaden rapidly, the stalk to grow upward so that all at once, it seems as if the field had suddenly become a great green velvety carpet covering the entire surface. By the Fourth of July it has become knee high and then it begins to grow so rapidly that the farmer calls it the "shooting" period. The corn soon reaches its maximum height. Then there appears the ear which strikes our attention suddenly as the bundle of husks and silks precede the development of actual kernels on the ear. Soon all growth in bulk has been attained, but development has not ceased. The growth forces now are all directed toward the great end of all growth, the maturing of the seed and the storing of sufficient nourishment around the germs to make possible the reproduction of new plants and the perpetuation of the species. While there are no instantaneous changes there have been many different kinds of growth and development and each has been accentuated during a given period. While some types of growth have been waxing others have been waning.

Have you ever noted the appearance of new roses? Last night there were only buds which had been swelling for a long time, and now suddenly overnight the beautiful full blown flowers greet you. To be sure preparation has been going on for some time but the new phenomenon has occurred with such rapidity as to challenge our attention.

Whoever has watched the butterfly emerge from the cocoon or the frog from the tadpole stage can hardly have failed to be convinced of relatively rapid transformations. The chick emerging from the shell suddenly undergoes great transformation. The old method of life is abandoned and a new one ushered in. The birth of the child, as of all mammals, is a wonderful and sudden transformation. A new process of respiration, new ways of food taking, new processes of digestion, and myriads of other adjustments are suddenly taken on. After birth rapid changes take place in height, weight, brain growth, heart, lungs, and digestive system. While the antecedents of the teeth are present in the gums before the actual teeth appear, the teeth rather suddenly begin to emerge and soon dentition makes possible new types of food and new processes of digestion.

3. GROWTH NOT UNIFORM AT DIFFERENT STAGES .

Growth is far from uniform in all nature. In the human being, for example, the growth of several parts of the body from birth to maturity illustrate this strikingly. At maturity the head is about twice as long as at birth; the trunk is about three times as long; the arms are about four times as long; and the legs are about five times as long.

The growth of the brain at different stages of life illustrates the same uneven progress. At birth the brain weighs approximately one pound. During the first year of life it

nearly doubles in weight; by the end of the third year it nearly trebles. From the end of the third year to the end of the seventh year it increases only about one-third over its previous weight.

Tyler says:

Growth is periodic and by parts. Each organ and system has a stage when growth and development depend upon exercise. This is true of different parts of the brain as well as of other organs. . . . The pubertal period is characterized by a very rapid growth in height and by readjustment or rebuilding of all the organs of the body.¹

Gates says:

Children do not mature at a uniform rate in each and every trait; they typically mature at somewhat different rates in particular traits. The notion that certain hormones influence or control growth in general is likely to lead us into conceptions quite detrimental to educational diagnosis. General maturity is, like general intelligence, general scholastic status, or general athletic ability, merely an arithmetic average of many traits which are distributed above and below the central level. Growth is not unified; it is specialized. . . .

Maturities, as we have appraised them, are not everywhere one and the same. Growth is specialized and has many phases. In so far as physical status, mental age, educational age, and estimated mental, physical, social, scholastic, and emotional maturities as here secured represent phases or types of growth, the conclusion apparent is that growth is not everywhere uniform and single but varied and in different degrees, independent.²

While at six or seven years, the brain is about as large as it ever will be, it is far from mature. Although practically no increase in brain size takes place from seven on, think

¹ Op. cit., p. 198

² Gates, Arthur I., *Journal of Educational Psychology*, 3: 345, 352, Sept., 1924

what tremendous increases are yet to occur in height, weight, and growth of internal organs. Tyler writes:

According to Vierordt the brain forms 12.29 per cent of the weight of the body at birth; in the adult, 2.15 per cent. It is outgrown by other organs. Its absolute weight at birth is a little more than one-fourth of its adult weight. . . .

He says of the muscles:

In the new-born child they form about one-fourth of the weight. Between birth and maturity they increase about thirty-seven fold. Until the fourth year of life the viscera are outgrowing the muscles, which apparently do not begin to increase very fast until the sixth or seventh year. From this time until the age of sixteen or seventeen their relative increase is very rapid. During the first half of this period, growth in length is more prominent; during the last half, growth in girth. After seventeen growth in weight usually slackens, but the muscles still increase in girth, toughen and harden, and gain greatly in strength and endurance.

Tyler's statement concerning the variation in the growth of the circulatory system at different ages is emphatic on this point. He says:

The heart at birth is relatively heavy. It doubles its weight during the first two years, doubles this at eight, and doubles this once more during the next six years. The relative weight of the heart, as compared with the weight of the body, is great at birth, sinks during the first year, rises at four, is low at eight, and rises again at about fourteen. The volume of the heart doubles during the first two years. It somewhat more than doubles during the next five years. During the next seven years, between the ages of seven and fourteen, its increase is still slower, adding about two-thirds of its volume at seven. During puberty the heart enlarges as much as during the preceding seven years. If puberty is attained quickly, as is frequently the case with the girl, the whole amount may be added during three or even two years. Hence during adolescence the heart is large but weak in both sexes.

The arteries are relatively large in childhood, smallest at

puberty, after forty enlarge slowly and in old age have nearly the same relative size calibre as in childhood. As the capacity of the heart increases at puberty much more rapidly than the calibre of the arteries, the blood-pressure rises rapidly at this epoch, while it is low in childhood and old age. The greatest activity of the organism coincides in time with the highest blood-pressure.¹

Hall brings out the same idea. He writes:

Landois says that from infancy to puberty the heart is small and the vessels relatively large, but in the adult, conversely, the heart is large and the arteries relatively narrow, so that there is a conversion of the relation existing between the size of the heart and the cross section of the arterial system taken as a whole. At birth the relation of the heart to arteries is as 25 to 20; at the dawn of puberty it is as 140 to 50; and in full maturity it is as 290 to 61. The pulmonary artery is relatively large in infancy as compared with the aorta, but at puberty the two approximate the same diameter.²

The table on page 85, copied from Vierordt³, brings out strikingly the fact of disproportion in growth of the various organs from birth to maturity. Even allowing for inaccuracies and considering it as approximate it emphasizes the fact of variation in growth of the different organs.

Hall's well-known picture showing the appearance an adult would present if all parts increased proportionately from birth to maturity brings out these facts in a very clear manner.

The skull and face would be enormous, the neck long, the shoulders low or almost absent, the thorax narrow laterally but deep from front to back like a quadruped, the arms and especially the legs short, the hips small, and feeble.⁴

¹ Op. cit., pp. 69, 71, 74

² *Adolescence*, Vol. I, p. 93

³ *Physiologie des Kindesalters*, p. 254

⁴ *Adolescence*, Vol. I, p. 60

TABLE VII

SHOWING THE NUMBER OF TIMES THE VARIOUS ORGANS INCREASE
IN SIZE FROM BIRTH TO MATURITY

Testes	60	Heart	12.5
Muscles	48	Kidneys	12
Pancreas	28	Skin	12
Skeleton	26	Salivary Glands	10.7
Lungs	20	Spinal Cord	7
Stomach and		Thyroid Gland	4.5
Alimentary Canal	20	Brain	3.7
Milts	18	Eye	1.7
Liver	13.6	Suprarenal Capsules	0.9
Ovaries	13	Thymus	0.05

Baldwin's recent and exhaustive studies of the physical growth of children cannot fail to emphasize the idea that growth is very fluctuating and lacking in uniformity. He writes:

- I. It will be noted that the boys from birth to six years of age are uniformly taller and heavier at all ages than the girls.
- II. For both boys and girls for this period the greatest increment and the greatest per cent of growth is during the first year.
- III. The per cents of total stature and weight at six years of age show that the height *doubles* during the first six years after birth and the weight increases *four times*. The greatest increase is *during the first year* in both height and weight. The weight-height index on an average doubles during the first six years after birth. . . .
- V. The most significant conclusion for Iowa lies in the fact that these boys and girls who are above the average of the United States in height begin soon after birth to lose weight in proportion to their height. This is probably a nutritional and health education problem. This is more evident as the ages increase. . . .
- VIII. The type case pictures show the wide range of individual differences in the various physical traits among supposedly normal children for periods from four months to six years of age and the need for remedial and developmental training for all.

- IX. The individual growth curves for pre-school children show significant but unexplained fluctuations at five or six years of age in individual growth curves in height, weight, and breathing capacity.¹

4. MARKED PHYSICAL AND PHYSIOLOGICAL ACCELERATIONS AT ADOLESCENCE

Striking physical and physiological changes. Crampton says:

The great failure of education to-day is its inability to recognize the fact (where it is absolutely essential that it should) that children differ in rapidity of development. Its maladjustments are particularly evident at or about the time of puberty. The change from an asexual to a sexual life may occur at any age from six to twenty years, usually between twelve and fifteen, but when it does occur the changes are profound. In the short space of six months the child becomes a man or a woman, and the transition is fraught with the dangers and turmoil of a new birth. There is an outburst of physical growth, four or five inches are added to height, thirty or forty pounds to weight, and strength may be doubled in a short space of time.²

Tyler with keen biological insight has emphasized the far-reaching reorganization that occurs during the initial period of adolescence, especially in the girl. He says:

A year of slow growth and the beginning of the acceleration of growth in height usher in the critical period of puberty. Now comes a metamorphosis almost as marked as the change of the caterpillar into the butterfly. Every organ in the body is more or less modified. The changes in the girl are probably more profound than in the boy. They occur earlier, before we expect them. They are accomplished in a briefer time, and hence are more hurried. Her pubertal period is more likely to be stormy, and her rate of morbidity is higher. Her future health and happi-

¹ Op. cit., p. 69

² "The Significance of Physiological Age in Education." International Congress on Hygiene and Demography, 1912, Vol. III, p. 228

ness, if not her life, depend upon the successful accomplishment of this metamorphosis during the trying period of rapid increase in height. . . .

We have compared the changes at puberty to the metamorphosis of the butterfly. This is far more than a mere analogy. The changes are comparable but in the butterfly they are written large. We can learn some valuable lessons from a caterpillar. During its larval stage its whole business is to store up material for its metamorphosis. If it fails in this, it dies, or a sadly weak and defective butterfly emerges from the cocoon. Similarly in the child the years before ten furnish the golden opportunity to store up material and vitality against the lean years of puberty. If this opportunity be neglected or only half-used, it never returns. We should utilize it to the utmost.¹

Marion Craig Potter, M. D., says:

The natural physiological changes of this period that lead to normal womanhood and manhood are well known. In girls the hips increase in size, the form becomes rounded and the voice higher pitched; in boys the shoulders broaden, the chest expands and the voice deepens; in both the skin is peculiarly sensitive and special organs of reproduction are developed and their functions established.

Almost every organ and part of the body grows with startling rapidity, but at different rates of speed, so that relative proportions are everywhere changed. The muscles do not elongate so rapidly as the bones, and as a result, the shoulders are drawn forward and the head droops. The joints are small in proportion to the bony framework, and the equilibrium becomes uncertain, causing the awkward girl and the stumbling boy.²

The manifold alterations and augmentations in psychic life—the new instincts, feelings, ideals, motives, and the general ripening of intellectual grasp that make up the psychological picture of adolescence—point unmistakably to corresponding alterations in brain activity.³

Koos has summarized carefully the facts regarding

¹ Op. cit., p. 162

² *Psychology of Adolescence*, p. 1

³ Whipple, G. M., in Monroe's *Principles of Secondary Education*, p. 257

physical and physiological changes at adolescence. He shows that it is a "period of remarkable physical growth and change" in both boys and girls. There is a "marked acceleration" in "stature, weight, breathing capacity, circulation, and primary and secondary sex-characteristics." He emphasizes that the evidences of accelerations are especially noticeable when we regard individuals instead of the averages of large numbers in which the curves are smoother. He says "one leaves the canvass of such data with the general impression that although growth is rapid from birth to adulthood, the period of pubertal development is one of especially profound significance in the physical constitution of youth and perhaps even to youth's mental make-up."¹

5. MARKED MENTAL REORGANIZATION

Changes in intellectual growth. Baldwin and Stecher concluded after prolonged study that:

The mental growth curves obtained by the individualizing method from consecutive measurements of superior and average boys and girls between the ages of 5 and 14 present at first glance the appearance of a straight line. . . . Further analysis reveals, however, a very significant change in the trend with the approach of adolescence. This is especially marked in the curve for girls, where there is a rise in mental development in the superior girls between the ages of 11 to 12 and in the average girls a year later, between the ages 12 to 13. The superior boys show a similar acceleration in mental growth at about 12—somewhat later than in the case of the superior girls. The boys of average mental ability have not yet shown this acceleration up to 14 years, which is the latest age for which we have a sufficient number of cases.²

¹Koos, L. V. *The American Secondary School*, 1927, p. 63

²Baldwin, Bird T. and Stecher, Lorle I. *Mental Growth Curve of Normal and Superior Children*, University of Iowa Studies in Child Welfare, Vol. II, 1922

Crampton recognizes that:

Not only are physical changes of moment occurring but also that new mental abilities appear, while others disappear, the type of play changes, new companions are sought, new likings, tendencies, enthusiasms and emotions make up the whole life. Old landmarks of life fade and new ones are eagerly sought. The sexual ripening determines an entirely new outlook upon life, the earning instinct looms large in the boy, the home-making instinct in the girl.

The important fact that is constantly disregarded is the fact that the pubertal change leaves the child a wholly different being, different mentally, physically, and morally from the children in the stage just left behind.¹

Koos evaluated all the evidence possible and pointed out that the writers opposing have used mainly only quantitative studies of intellectual achievement. This leaves out of account physical data and the emotional life altogether. Even in the intellectual phases, Koos says that the data show some acceleration although it does not warrant the use of the exaggerated term "cataclysmic." Koos says:

It is desirable to state, before leaving this illustration of opposition to the theory of accelerated development in mentality at adolescence and support of the theory of gradual development, that the *quantitative data referred to are restricted to the cognitive, or knowing, phase of mental life and that a method (for example, the questionnaire method) may be discredited without disestablishing the phenomena which the method is supposed to have discovered. . . .* It has been too readily assumed by some that discrediting this questionnaire method and denying the fact of profound change were accomplished by the same stroke of criticism. A method may be discredited and the phenomena with which it is concerned still exist.²

Adolescent emotional changes. Although empirical judgment arrived at through everyday observation has led many

¹ Crampton, C. Ward, loc. cit.

² Koos, op. cit., p. 75

to believe that adolescent changes in emotions and interests are profound, it is difficult to prove through statistical facts. As will be shown elsewhere the emotional life of the adolescent is doubtless far more determinative of the youth's future than is his intellectual development. On account of the difficulty of studying emotions and interests experimentally, most psychological investigation has been in the realm of intelligence.

Nevertheless, the want of experimental proof of profound change arising out of what has been up to the present a relatively intangible field for investigation does not justify the view that there is no such profound emotional change. Furthermore, *no definite decision concerning gradual mental development is acceptable which leaves out of account, largely or entirely, its affective side*, as has sometimes been done in recent years. To conclude by analogy that because no profound change takes place in such a phase as cognition, no profound changes occur in some other phase, is in some respects as fallacious as to argue that because there is a spurt of physical change, there is a corresponding spurt in mental development. Both arguments are attempts at proof by analogy. The trend of better judgment—again admittedly unsupported by direct factual evidence—is toward acceptance of adolescence as a period of significant emotional change.¹

Pechstein and McGregor said:

When the reader remembers the great changes both of glandular structure and function during adolescence, together with the fact that the smooth muscles and glands primarily constitute the "bodily seat"—better, provide the major portion of the sensations constituting the emotion—it becomes clear that *emotion, both as to its strength, rapidity of growth and disturbance, rates as one of the most critical and prominent features of adolescent mentality*. In the working of the complicated machinery controlled by the autonomic system—the smooth muscles, the duct glands (salivary, gastric, pancreas, liver, kidney, and skin), and the ductless glands (thyroid and parathyroid, adrenal, pituitary,

¹ Koos, op. cit., p. 86

pancreas, and especially sex), with emphasis on the last-named group—do we seem to find the basis for such outstanding facts of adolescent emotion as the following:

(1) A decided “drive” or depression, placing the youth respectively quite above or below his normal level of equilibrium.

(2) Occasional persistency and strength for physical and mental application quite beyond the ordinary.

(3) Occasional inability to accomplish the daily duties, the emotional picture being at times that of excitability, depression, or instability.¹

Baldwin and Stecher made consecutive tests by the Stanford-Binet tests upon average and superior groups at different ages and discovered what they term “adolescent spurts” at about 12-14. In their own words their comments are recorded:

The average curves are approximately straight lines, which show that these children are comparable to those on whom the scale was standardized. In contrast with the straight-line average curves, the superior curves show fluctuations at the adolescent ages, indicative of the earlier mental development of superior children. Both the superior and average girls of this group are in advance of the boys at the adolescent ages—12 to 14—when measured by this scale. As previously pointed out, this adolescent spurt is analogous to the adolescent acceleration so frequently found in physical-growth curves in height, weight, breathing capacity, and other physical traits.²

Mental pathological conditions emphasize the foregoing. As pointed out in the chapter on “Adolescent Diseases” while most of the diseases of that period could be obviated by proper hygiene, that is the time when they are most likely to make inroads because of unusual growth. Koos

¹Pechstein, L. A. and McGregor, A. Laura. *Psychology of the Junior High School Pupil*, p. 105

²Baldwin, Bird T. and Stecher, Lorle I. “Additional Data from Consecutive Stanford-Binet Tests.” *Journal of Educational Psychology*, Dec., 1922, Vol. 13, p. 557

comments on this susceptibility at adolescence in the following words:

The symptoms of hysteria are more generally known than are those of dementia praecox. Among these are susceptibility to weeping, laughter, or aberrations of temper, and they may extend to convulsive seizures and anaesthesias. Although they sometimes affect the boys, they more commonly affect girls and women, especially girls in the teens. From Burnham's review of the reports on epidemics of hysteria among girls in schools one may conclude that the incidence is greatest from the age of eleven to fifteen or sixteen. The observations reported are of European schools, but this can hardly subtract from their significance for an understanding of the nature of children during the period of adolescence.

The fact that these afflictions are in some degree peculiar to adolescence, even though far from general during that period, affords partial justification, despite protestations to the contrary, for looking upon it as a time of "storm and stress" and for adapting the educational regime to the requirements of psychic normality.¹

Pechstein and McGregor regard adolescence as such a "storm and stress" period as to give rise to many mental aberrations. A paragraph is quoted verbatim from their discussion:

A "*storm and stress*" period. The above mentioned types of mental pathology of adolescence go a long way to characterize the period. Adolescence demands a radical reconstruction of interests, attitudes, and desires, as natural resultants of the rapidly expanding internal powers of the organism and the enlarged environment in which it is forced to move. This reconstruction is far more emotional and volitional than intellectual, as the analysis of the gross types of inability in making adjustments listed above has shown. Complete and entirely socially adapted action fails to be attained, rival instinctive and habitual systems clash, and weaknesses of personality, character, and morality emerge—all of which lead to characterizing the period

¹ Koos, op. cit., p. 90

as one of "storm and stress." The thwartings discussed in an earlier chapter find full reference and illustration here.

The thorough student of adolescence should give the mental pathology of adolescence its full significance, yet without blinding himself to the fact that the vast majority of adolescents, given a sane educational and home environment preceding and during the period, reach maturity without encountering the tragic conditions portrayed by this chapter. Adolescent insanity, as a more or less prolonged and marked departure from the individual's mode of thinking, feeling, and acting, and resulting in a marked lessened capacity for adapting to the environment, should be, and generally is found to be, the exception rather than the rule.¹

Unintentional corroboration by opponents. Thorndike and King have expressed themselves more emphatically than any others in opposition to the belief in the saltatory theory of development. Even they have made so many qualifications and admissions that they will now be brought on the witness stand against their own conclusions and appear as witnesses for the defense of the theory.

Thorndike makes light of much of the literature concerning adolescence and gives the general impression that adolescence is not a period of specially marked characteristics. But notwithstanding this attitude, he has furnished some good material showing that adolescence is in reality very definitely characterized by striking phenomena. He submitted a questionnaire to sixty-six graduate students who were teachers and superintendents of schools asking them to recall the age at which certain feelings or inclinations were strongest or weakest. He says:

It seems, therefore, fair to say that of the twelve matters studied, only interest in vocations, friendship, reforming zeal, and love of solitude are specially characteristic of adolescence. These have their acme at eighteen, twenty, eighteen, and eighteen.

¹ Op. cit., p. 140

The maximum of selfishness comes before and that for unselfishness comes after the years from fourteen to twenty-two. So, also, with desire to do one's duty, love of nature, and love of reading.

The significant thing is that Thorndike recognizes that there are specially striking characteristics at adolescence. In those in which he finds no striking phenomena at adolescence, the characteristics are so complex that they are hard to analyze and one would scarcely expect that they would appear in a striking way at this time. Others are generally recognized as coming late in the period of adolescence.

Brooks argues that development during adolescence is not saltatory but regular and uniform. He presents many tables and graphs to support his interpretation. However, careful perusal of his data does not seem to bear out his conclusions. Most of the factual data seem to indicate much irregularity throughout the growth period and considerable acceleration during adolescence. This is especially true of his data relating to height, weight, growth of head, weight of heart, blood pressure, weight of liver, brain weight (in childhood), pubescence, vital capacity, precision of voluntary movement, fatigue, rate of growth of memory, reading growth curves, and ability to follow directions. In his table and graph showing combined mental functions support of the belief in variability is especially striking. The writer recently asked a class of forty-six members to study the factual data and the interpretations given by Brooks and the belief was unanimously expressed that the conclusions were not borne out by the data used.¹

King has not been consistent in his expression regarding the continuity and uniformity of development. Even in the same book he himself uses the same kind of terminology,

¹ Cf.—Brooks, *The Psychology of Adolescence*, Chapters II, III, IV, V

and with the same meanings as those whom he criticizes. For example, in his chapter on "Changes in the Teens," he points out some of the difficult high school problems resulting because adolescents "lack the docility of childhood and the fine idealism that comes to most young people soon after puberty. These are the years of serious retardation in the grades, the years in which many pupils drop out of school altogether." His next three chapters are entitled, "Broadening Vision," "Birth of a New Self," and "Characteristic Phases." Each of these titles suggests important differences between adolescence and the period immediately preceding and the one following. He writes:

Even the most ordinary observer of children has noted how most boys and girls suddenly begin to grow rapidly somewhere between the ages of twelve and fifteen. . . . Almost all at once, it seems to his parents, he begins to *shoot up*. In spite of a watchful mother his sleeves get too short and an awkward length of shank appears between his shoe-tops and the bottoms of his knee trousers. His movements become ungainly. . . . The girl's figure also rounds out more quickly than does the boy's. All teachers of mixed classes from twelve to fourteen have especially good opportunity to see how the girls for a time forge ahead of the boys of the same age in height and weight. . . . It is the beginning of the break-up of the familiar easy comradeship of childhood and marks a transition to a new and more profound interest in one another which is soon to appear.

The maturing of the sex function is, of course, central in all these physical changes, and the rapid increase in stature is so nearly coincident with the change of puberty that it may ordinarily be taken as a proof that change has taken place. In all the years from birth through childhood the child's rate of growth declines, at first very rapidly and then more gradually. . . . But the rate declines sharply year by year until the ninth for girls and the eleventh for boys. . . . Then there is a *somewhat abrupt upward turn in the curve*, especially for boys. . . . The childhood-self, shell-like, has slipped off, and the young animal stands

with eager expectancy before life's possibilities. The season is, then, in a way, the flood-tide of the energies of life, a time when all the vital forces which have centered in the making of this and that personal life reach their highest pitch, when they acquire the momentum and the direction which they will keep throughout the rest of their course.¹

The following additional expressions are typical: "The self of childhood dissolves and a new self is born." This change is "so sudden, in fact, that the child himself is startled by the rapid shift in his point of view." "Sometimes the change is largely intellectual; sometimes strongly emotional and throbbing with rebellion against authority, with fierce passion." "The birth of the new self is often fraught with quite as much danger as the birth that first brought the child into the world." "The child is literally swamped with the rising tide of vital energy within himself."

King quotes from Margaret Deland's story of the romance of Elizabeth and Blair. Through years they had been chums entirely unconscious of any attitude except of that of childhood play-fellows. But suddenly one afternoon Blair realized that Elizabeth was good looking.

"Good looking"; that was a new idea to the four friends. Nannie gaped; Elizabeth giggled; David "got red" on his own account and muttered under his breath. But into Blair's face had come, suddenly, a new expression; his eyes smiled vaguely; he came sidling over to Elizabeth and stood beside her, sighing deeply: "Elizabeth, you are an awful nice girl." Elizabeth shrieked with laughter, "Listen to Blair, he's spoony!"

Instantly Blair was angry; "spooniness" vanished in a flash; he did not speak for fully five minutes. They presently started home, "but," says Mrs. Deland, with keen insight into the nature of youth, "childhood for all of them ended that afternoon."²

Concluding evaluation. Doubtless enough evidence has been assembled to show very conclusively two things:

¹ Ibid, pp. 12-14

² Deland, Margaret. *The Iron Woman*

(a) that growth is seldom, if ever, perfectly uniform, and (b) that there is a marked retardation before adolescence and an equally marked acceleration with the onset of adolescence. Now, no one should say that there is any assumption that all growth ceases for a time before adolescence and that with the approach of adolescence there is an instantaneous revolution. Such an interpretation is entirely unwarranted. It would be as tenable to assume that growth in the oak is absolutely uniform the year round, that there is no marked period when the branches are shooting, when the acorns are forming, or when the acorns are ripening.

A paragraph from Koos will be used to summarize the entire discussion. His conclusions will be regarded as all the more significant when it is known that for years he was very skeptical, even quite definitely opposed to the saltatory theory of adolescent acceleration. On more than one occasion he expressed to me his doubts and convictions. Like the true scientist that he is, he kept his mind open and was always ready to welcome new evidence when discovered regardless of the direction in which it might lead. I was very pleasantly surprised when I saw his changed convictions expressed in his volume on *The American Secondary School*.

Adolescence a period of pronounced change. One leaves a recapitulation of the evidence of growth and development such as has just been essayed with a general impression that youth, or adolescence, comprehends a period of significant change. It is a period of rapid physical development, comprising a time of pronounced acceleration of growth in stature, weight, breathing capacity, anatomical development, and the like. More than this, it is the period of arrival of sex maturity with its accompanying primary and secondary sex characteristics, rapidly differentiating the adolescent from the preadolescent in these important respects.

Such evidence as we have on mental development in adolescence is not as unequivocal as that pertaining to physical development, but there is some ground for the belief in accelerated development even here. As far as can be judged from data and opinions reported, the acceleration is less marked for the cognitive phase of mental life than for the affective phase. It is not easy to shake the belief in a profound change in the affective phase of life and in a genuine acceleration in the social impulses and allied interests. The general conclusion is that while adolescence (especially in its earlier stages) is a period neither of strictly saltatory development nor of strictly gradual development, we can assert without quibbling that it is a *period of pronounced change* which must be taken into account educationally.¹

6. SCHOOL ADJUSTMENTS NECESSARY TO MINISTER TO ADOLESCENT CHANGES

These facts in the aggregate suggest that the period of adolescence is sufficiently distinctive to warrant the belief that the character of the education should be different from that preceding. This is thoroughly emphasized by general observations of teachers. Educational literature is replete with the expressions of schoolmen who have recognized the characteristics of the period and who have striven to adapt educational procedure to the needs of adolescents. The establishment of junior high schools is evidence of the same recognition. Nearly all arguments for the junior high school stress the fact of the peculiar character of the development of boys and girls at that age. Even Pechstein and McGregor who quote approvingly Thorndike and Inglis disclaiming that there are any marked changes at adolescence, unwittingly contradict themselves when they state that:

The preceding chapters have sufficient to show not only the various striking physical phenomena of adolescent growth, but that chronological age relates very poorly to anatomical and physiological age.²

¹ Op. cit., p. 91

² Op. cit., p. 34

American educational work wrongly organized. Again the present mode of organization and administering educational work in America is psychologically ill-grounded. The adolescent period usually begins at about the age of twelve years. With the dawn of this new period come most notable changes in physical form, structure, and function, and most decided concomitant psychological changes. At this period self-consciousness is born. The interests that formerly held dominant sway are cast aside. New motives stir, new aspirations fire, new goals beckon. *Conscious logical reason begins to proclaim itself. The mind is no longer satisfied with mere empirical facts, but it demands that the facts be presented in their essential relations. . . .* To enforce unnatural restraints upon an adolescent is to deaden his sensibilities, stifle his intellectual and his social enthusiasm, and atrophy his powers. To keep him under the restrictive and arbitrary discipline of the ordinary elementary school is to sin against nature and to commit an offence against the laws of social well-being. To employ with him the methods of instruction and training of the elementary school is to provoke him to truancy, encourage him to evade school work, and impel him to forsake school duties altogether. *The beginning of adolescence is most emphatically the beginning of the period of secondary education.* As our schools are organized and administered to-day this fact is ignored.¹

SELECTED REFERENCES

- BALDWIN, BIRD T. "The Physical Growth of Children from Birth to Maturity." University of Iowa *Studies in Child Welfare*, 1921
- BALDWIN, BIRD T. "Relation Between Mental and Physical Growth." *Journal of Educational Psychology* (December, 1922), 13: 556-560
- BALDWIN, BIRD T., and STECHER, LORLE I. *Mental Growth Curves of Normal and Superior Children.* University of Iowa *Studies in Child Welfare*, 1922
- BROOKS, FOWLER D. *The Psychology of Adolescence.* Houghton Mifflin Company, 1929
- BURNHAM, WILLIAM H. "The Study of Adolescence." *Pedagogical Seminary* (1891), Vol. 1

¹ Davis, C. O. "Principles and Plans for Reorganizing Secondary Education," in Johnston, C. H., *High School Education*, p. 69

- DAVIS, CALVIN O. "Principles and Plans for Reorganizing Secondary Education," in JOHNSTON, CHARLES HUGHES, *High School Education*. Charles Scribner's Sons, 1912
- DONALDSON, HERBERT HENRY. *Growth of the Brain*. Charles Scribner's Sons
- DOUGLASS, AUBREY A. *Secondary Education*. Chapter VII. Houghton Mifflin Company, 1927
- DOUGLASS, AUBREY A. "The Junior High School." *The Fifteenth Yearbook of the National Society for the Study of Education*. Public School Publishing Company, 1916
- GATES, ARTHUR I. *Journal of Educational Psychology* (September, 1924), 3: 352
- KOOS, LEONARD V. *The American Secondary School*. Chapter II. Ginn and Company, 1927
- HALL, G. STANLEY. *Adolescence*. 2 vols. D. Appleton and Company, 1904
- KING, IRVING. *The High School Age*. The Bobbs Merrill Company, 1914
- KOOS, LEONARD V. *The Junior High School*. Chapter III. Ginn and Company, 1927
- MONROE, PAUL. *The Principles of Secondary Education*. The Macmillan Company, 1914
- MONROE, PAUL. *Principles of Secondary Education*. Chapter VII by Whipple, G. M. The Macmillan Company, 1914
- MURDOCK, KATHERINE and SULLIVAN, LOUIS R. "Some Evidences of an Adolescent Increase in the Rate of Mental Growth." *Journal of Educational Psychology* (September, 1922), Vol. 13: 350-356
- PECHSTEIN, LOUIS A. and MCGREGOR, A. LAURA. *Psychology of the Junior High School Pupil*. Houghton Mifflin Company, 1924
- THORNDIKE, EDWARD L. "On the Improvement in Intelligence Scores from Fourteen to Eighteen." *Journal of Educational Psychology* (December, 1923), 14: 513-516
- THORNDIKE, EDWARD L. *Educational Review* (September, 1917), 54: 140-147
- THORNDIKE, EDWARD L. *The Original Nature of Man*, pp. 260-61. Teachers College Publications, Columbia University
- THORNDIKE, EDWARD L. *Educational Psychology*, Vol. 3, pp. 279-80. Teachers College, Columbia University, 1914
- TYLER, JOHN M. *Growth and Education*. Houghton Mifflin Company, 1907
- WHIPPLE, GUY MONTROSE. "Psychology and Hygiene of Adolescence," in MONROE's *Principles of Secondary Education*, Chapter VII. The Macmillan Company, 1914



CHAPTER VI

ADOLESCENCE IN RELATION TO DISEASE

1. MEANING AND CAUSES OF DISEASE

Meaning of disease—disproportion. It is not intended to present a depressing picture here of armies of pathological cases during adolescence. Disease does not necessarily imply pathological or degenerate tissues. Disease primarily means *disease*—lack of ease. Whenever growth forces get out of balance or proportion there is *disease*. Suppose one muscle of an opposing pair of muscles exerts a stronger pull than the other. The given part of the body is thrown out of proportion, out of symmetry—is *diseased*. This may happen to the muscles of the face and distortion occurs. If the opposing muscles upholding the spinal column exert disproportionate tension spinal curvature results—a *disease*.

Similar disproportion may occur in mental life. Obsessions may occur in intellectual or emotional life and the mind becomes unbalanced. Mental *disease*—insanity—is the result. Obsessions may produce impulses to wrong conduct—immorality—and the *disease* is called crime. In reality all crime is an anti-social disease, a variety of insanity. This does not mean irresponsibility. Every criminal should be held accountable. He is primarily responsible for the warped, anti-social condition of his own mind. A fuller discussion of mental deviation and criminality will follow later.

By morbidity is meant tendency toward disease. By disease is meant any maladjustment of structure or imperfection of functioning. Disease means lack of ease and not

necessarily serious pathological disturbance. Consequently, among disease tendencies we may include any anatomical, physiological, mental, or moral disturbance. A catalogue of adolescent diseases would then include along with typhoid fever, spinal curvature, and insanity, such minor disturbances as headache, nosebleed, sleeplessness, hysteria, loss of appetite, and digestive troubles. In plant life whenever excess nutrition is centered at any point excrescences and abnormal growth result. At the same time growth forces may be diverted from other portions of the plant and the total result is an abnormal, undesirable plant. Among lower animals and human beings similar phenomena may occur. Witness this in monstrosities like cretins, hydrocephalus individuals, giants, dwarfs, and the like. Similarly warts, wens, tumors, and cancers are biologically simply excrescences due to excess growth in given portions of the anatomy. These are undoubtedly caused by some unusual stimulation diverting life forces to some particular part.

Cause of much adolescent morbidity. Because of the great intensity of life forces, adolescence is a period when malformations of body and maladjustments of mental life are especially likely to occur. It is notable that during early adolescence such malformations as round shoulders, drop-shoulders, and spinal curvatures may develop.

An examination of statistics of disease and of mortality discloses the striking fact that during the years of adolescence the disease rate is high but the rate of mortality is low. Tables show that the number of cases of disease is lower before adolescence and after than during the years of adolescence. Table VIII indicates definitely that the number of deaths, however, is much smaller during the years of adolescence than immediately preceding or following.

It is a remarkable fact and at first sight singular and even paradoxical, that during the years of greatest growth there is greatest susceptibility to illness and lowest mortality. Dr. Hartwell, Director of Physical Training in the Boston public schools, made a study of the death rate

TABLE VIII

DEATH RATE AT SUCCESSIVE AGES IN THE U. S. FROM ALL CAUSES PER 1000 POPULATION DURING DIFFERENT YEARS¹

	1900	1910	1920	1925	1926
Under 1 year	162.4	141.7	106.1	76.1	75.2
1 to 4	19.8	15.0	10.7	6.0	7.1
Under 5	49.9	41.8	29.1	19.5	20.2
5 to 9	4.7	3.6	3.2	2.3	2.3
10 to 14	3.0	2.4	2.3	1.9	1.7
15 to 19	4.8	3.7	3.8	3.0	2.9
20 to 24	6.8	5.3	5.2	3.7	3.7
25 to 34	8.2	6.6	6.4	4.4	4.3
35 to 44	10.3	9.5	8.0	7.2	7.3
45 to 54	15.0	14.7	12.6	12.6	13.2
55 to 64	27.3	28.3	25.5	27.0	28.2
65 to 74	56.5	59.0	56.7	60.8	64.1
75 and over	142.4	145.2	141.3	141.6	151.3

among the school children for the years 1885 to 1890. The annual death rate between 5 and 15 was 471 in a school population of 70,000. The period between the ages of 10 and 15 was the period of most rapid increase in height and weight, and also the period of lowest death rate. The year of greatest life intensity for girls was the twelfth; for boys the thirteenth. Hall writes: "These years were at once the period of accelerated growth and of accentuated specific intensity of life; or, in other words, this is a period at which Boston children attain and pass the flood-tide of growth as measured by their power to resist disease."²

¹ Adapted from Mortality Statistics, 1926, Part II, p. 25

² *Adolescence*, Vol. I, p. 248

It is generally thought that adolescent diseases are occasioned by a reduced vitality. Just the opposite is frequently true. Resistance may be lowered because of disproportionate growth, but this disproportion is generally due to abundance of vitality rather than undernutrition. Individuals who are growing rapidly because of richness of energy are far more susceptible to disease than the slowly-developing individual who retains a balance among all the organs and life forces. Hall wrote:

As we know more of adolescence, it will probably be apparent that many, if not indeed most of its minor disorders are due to disproportionate development. If increase in height is too rapid and excessive, not only growing pains in the limbs due to failure of the muscles to develop *pari passu* with the bones, but venous disturbances, particularly varicosities in the legs, now so common, and even aortic disorders may be caused, to say nothing of curvatures and torsions, because young people become self-conscious and perhaps ashamed of their sudden height, and the fully upright posture is hard to maintain. Acromegalia, or excessive development of the limbs or bones of the face, probably illustrates this same disturbed equilibrium. Some headaches and eye troubles have here their cause.¹

While it may at first appear paradoxical that the period of greatest morbidity is the period of lowest mortality, the paradox is easily explained when we consider the meaning of disease as *disease*, i.e., lack of ease. This disease need not necessarily be pathological. It may simply mean lack of symmetry in the tension of some of life's forces. Suppose, for example, that the bones grow faster than the muscles. A tension is thus produced causing some of the bones to be pulled out of normal shape or position. If a pair of opposing muscles become asymmetrical in their tension some organ must get out of shape. This is evidenced

¹ *Adolescence*, Vol. I, p. 240

in spinal curvature, facial distortion, and cross eyes. Even germ diseases may be regarded as disease produced by the ascendancy gained by some of life's forces over others. In tuberculosis the tubercular bacilli have gained the ascendancy over the army of defence manufactured in the blood. If the phagocytes or white corpuscles can only get a start they will destroy the invading army of tubercular bacilli. Thus in adolescence when the tides of life forces are surging so strongly, is it strange that some of the forces should get out of balance? The very fullness, abundance, and richness of life becomes the possible occasion of disease and disorder.

2. DEVELOPMENTAL DISEASES OF ADOLESCENCE

Meaning of developmental diseases. By developmental diseases, it is meant that certain diseases are either due to a given stage of development or that they appear during that particular period more frequently than at any other time of life. Thus there are many well-known diseases peculiar to childhood, such as whooping cough, measles, meningitis, scarlet fever. Medical works mention them as children's diseases. Just why they occur at that time is not understood, but that they do attack children generally rather than adults is everywhere recognized. Similarly there are diseases incident to old age, such as failing eyesight, deafness, rheumatism, and hardening of the arteries. Certain diseases like cancer are usually incident to middle life. Similarly adolescence has its characteristic diseases that make their inroads more frequently at that period than at any other. Hence, we speak of developmental diseases. Among diseases peculiar to adolescence are typhoid fever, mumps, tuberculosis, insanity, sex perversions, and crime.

Many diseases may be considered as developmental dis-

eases; that is, some condition of the particular stage of growth renders the system peculiarly liable to attacks from certain germs, to which at another stage it would have been immune. Measles and scarlet fever are examples of such diseases of childhood. Other diseases occur at certain periods of life as a result of disproportionate development made especially liable because of excess of growth in these parts. Various malformations occur in this way. Still others occur because of arrest or hypertrophy occasioned by lack of use, overstimulation or any factor deflecting

TABLE IX

COMPARATIVE NUMBERS OF DEATHS IN THE UNITED STATES
FROM SEVERAL DIFFERENT CAUSES AT SUCCESSIVE AGES, 1926*

Ages	Whoop- ing Cough	Meas- les	Scar- let Fever	Diph- theria	Ty- phoid	Tuber- culosis	Can- cer	Goiter	Dia- betes
0-1	5139	2182	120	584	38	1396	53	1	20
1	2412	2596	252	1054	48	1329	84	1	31
2	845	1076	283	1123	81	763	99		33
3	365	561	262	1005	56	509	92	2	38
4	207	356	252	869	77	367	72	1	39
5-9	282	901	735	2125	477	1286	230	5	186
10-14	32	218	239	496	717	1820	194	22	313
15-19	9	177	139	128	1222	7224	311	94	369
20-24	3	110	111	84	1064	11829	513	167	293
25-29	3	65	71	84	699	11450	894	235	274
30-34	1	64	78	63	488	9823	1780	253	310
35-44	5	96	75	104	766	16420	8547	879	1014
45-54		74	30	59	561	11846	17838	1010	2564
55-64	2	60	12	42	335	8005	25490	912	5247
65-74	6	32	2	22	179	5295	26899	509	5600
75 and over	3	26	1	12	38	2080	16675	128	2536
Un- known Ages	3	4		2	246	126	62	2	14
Totals	9317	8607	2662	7856	6826	91568	99833	4161	18881

*U. S. Mortality Statistics, 1926.

normal lines of growth. Reference to Table IX reveals at a glance that measles, whooping cough, and diphtheria are very definitely diseases of childhood. Typhoid and tuberculosis are predominantly diseases of adolescence, and cancer, goiter, and diabetes occur mainly in mature life and in later years.

Clouston has shown that there are many diseases which are conditioned upon particular phases of development. The particular tissues affected do not seem sufficiently developed to resist or destroy infectious germs or other causes of disease. He mentions the fact of the epithelial lining of the air vesicles of the child being unable to resist the germs of scarlet fever and the skin of the child being unable to resist influences causing many skin diseases. Susceptibility to the whole range of zymotic diseases in childhood and adolescence may, he thinks, be explained in a similar way. Clouston mentions the following developmental diseases which develop during ante-natal life: acephaly, harelip, cleft-palate, deformed palate, club-feet, and idiocy.

The very cause of much disease is the very high intensity of life powers. Excess of growth, possibly caused accidentally in some direction as in inequality of muscular tension, produces disproportion or asymmetry which is but another name for disease. Excess of growth usually means abnormality either of body or mind. Growth itself is to a certain extent exhausting.

It is also true that during the years of rapid growth more pupils are kept in school and thus to a certain extent rendered inactive at a time when muscular exercise is naturally craved and very important in maintaining tonicity and health. In some countries overpressure in schools is doubtless a contributing factor.¹

¹ Cf.—Tyler, *Growth and Education*, Chapter on Mortality and Morbidity

But the very factor of great life intensity which may produce disproportion is the great cause of low mortality. The youth is tided over the period of weakness, disproportion, and disease and emerges stronger and better knit than before.

Typical developmental diseases of adolescence. Some of the typical diseases that make their inroads during the period of adolescence will be indicated. Attention will first be directed to a rather wide range of diseases to emphasize the liability to disease during this period. Following that certain diseases will be given more detailed consideration.

Dr. Hertel examined 3,141 boys in fourteen schools in Copenhagen, and found 1,900 healthy, 978 sickly, and 236 uncertain. Eighteen percent were sickly on entering school; after two years this number increased to thirty percent; and just before puberty, had reached forty percent, when it dropped to thirty percent, where it remained for a few years. Of 1,211 girls between the ages of five and sixteen, 640 were healthy, 433 sickly, and the rest of the reports were not returned. The percentage of sickness for girls rose rapidly from the first to the third school year, from twelve to thirty-two percent. From twelve to sixteen sickness increased till the ill outnumbered the well by ten percent, except at fourteen, when there was a slight change for the better. At about twelve and one-half years there was a sudden increase of illness due, as he thought, to the impending development of adolescence. Before puberty he found scrofulous diseases most common, and after it, anaemia, nervousness, headache, and eye diseases.¹

Besides the above mentioned diseases—headache, anaemia, nervousness of various types, stuttering, St. Vitus' dance, hysteria, the "barking cough of puberty," dermal eruptions, palpitation, indigestion, catarrh, respiratory troubles—spinal curvature and other scolioses or malformation of the bones are peculiarly likely to occur while

¹ Hall, *Adolescence*, Vol. I, p. 243

reorganization is taking place so rapidly. Bad postures among grammar school and high school pupils should be continually guarded against. To show that there is a crying need of attention to these matters some facts are cited from examinations made upon students entering the University of Pennsylvania. The various defects mentioned in the report of the director of physical training were doubtless all results of unsystematic development during the grammar school and high school period which might have been avoided had there been due consideration of its importance.

Five hundred and ninety-four men presented marked defects of some kind, of which 160 had uneven shoulders, the right shoulder being lower in all but twenty cases; while 84 showed well developed lateral curvature of the spine. In 209 the chest was flattened, and the shoulders round, to the extent of making the carriage awkward, unsightly, and interfering with respiratory movements. These men were almost all capable of being straightened and developed enormously by proper exercise.¹

During adolescence there are many bodily morbidities which do not attract attention as disease. Among these are indigestion, fickleness of appetite, eating to excess, craving for chalk, tobacco, stimulants, slate pencils, pickles, candy, and chewing gum. Alcoholic intemperance most frequently makes its appearance at this time. Hall believes that "one of the causes of diseased cravings, which may lead to wrong food habits and to intemperance, is due to the fact that the normal changes of appetite for both quality and quantity of food are perversions of natural appetite so often unnoticed and unmet." Because of the great reorganization going on new appetites are developed.

During the period of adolescence there are involved

¹ Provost's *Report*, 1904-5, p. 178

stupendous physical reorganizations of the nervous, motor, vascular, and reproductive systems, and far-reaching intellectual, emotional, and moral metamorphoses. There is little wonder that there is great liability to infection and that there occur many maladjustments, perversions, and distortions. Among the pathological conditions incident to the period are consumption, asthma, eye defects, deafness, malformation of bones, bodily arrest, megrim, chorea, acute rheumatism, adolescent insanity, and perverted sex instincts.

Diseases of the circulatory system. This great increase of circulatory power, even in excess of general bodily growth, on the one hand produces greater actual tension, greater vigor, and more abundant life; while on the other hand the very abnormal tension may cause irregularity and lack of symmetry of growth. Extreme exaggeration means disease, for disease often means lack of symmetry. Nervous palpitation is not infrequent among both boys and girls. Serious consequences through extreme effort in athletic events are much more to be feared during early adolescence than before or afterwards when the equilibrium again becomes established.

The inroads of tuberculosis. Frequently consumption is not detected until maturity, but usually when the history of a case is studied it is found that traces were earlier manifested. Often children of tuberculous parents appear so robust that happily they seem to have outgrown the tendency, but just at the threshold of manhood's or womanhood's full development the dreaded disease makes its fatal appearance. The completion of adolescent metamorphoses had served to leave the organization in such a condition as to forfeit the previous immunity. Clouston writes:

Lung tubercle first shows itself in any degree in fourteen per cent of persons living near the beginning of reproductive power,

viz., fifteen years of age. It doubles its virulence about twenty, reaching thirty-four percent, and gets to thirty-eight percent at twenty-five, and to forty percent at thirty, thus killing most of its victims during the developmental ages and reaching its maximum just at the age of completed development.¹

Hall writes:

The great work of Alexander James shows that the greatest mortality for consumption occurs from the ages of twenty-five to thirty. If we assume with Clouston that infection with this disease began in the average five years earlier, we could infer that consumption begins under twenty-five, and this would agree with James's law that "Tubercular deposits tend to occur in various tissues at periods when the excessive nutritive power required for growth is becoming or has become exhausted."²

The following table taken from the same source showing the mortality in Prussia from tuberculosis at different ages, is confirmatory of the position maintained.

TABLE X

NUMBER OF DEATHS FROM TUBERCULOSIS IN PRUSSIA OUT OF 10,000 POPULATION

Years	10-15 yrs.		15-20 yrs.		20-25 yrs.		25-30 yrs.		30-60 yrs.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
1895	4.99	8.77	16.65	17.51	27.04	21.94	29.08	26.84	41.02	29.87
1896	4.77	8.30	15.74	17.34	26.81	22.17	25.81	25.31	36.81	29.33
1897	4.99	9.04	15.54	16.64	27.21	22.49	25.92	25.15	37.60	27.75

Some recent statistics from the State of Washington confirm the earlier data quoted above. The subjoined graph shows very decidedly that tuberculosis is peculiarly a fatal disease of late adolescence and early maturity. The same chart also emphasizes the fact of developmental diseases of different stages of life.

To be sure, a great many cases of tuberculosis are not

¹ *Neuroses of Development*, p. 91

² *Adolescence*, Vol. I, p. 257

DEATHS IN WASHINGTON FROM VARIOUS DISEASES¹

DISTRIBUTION BY AGE GROUPS

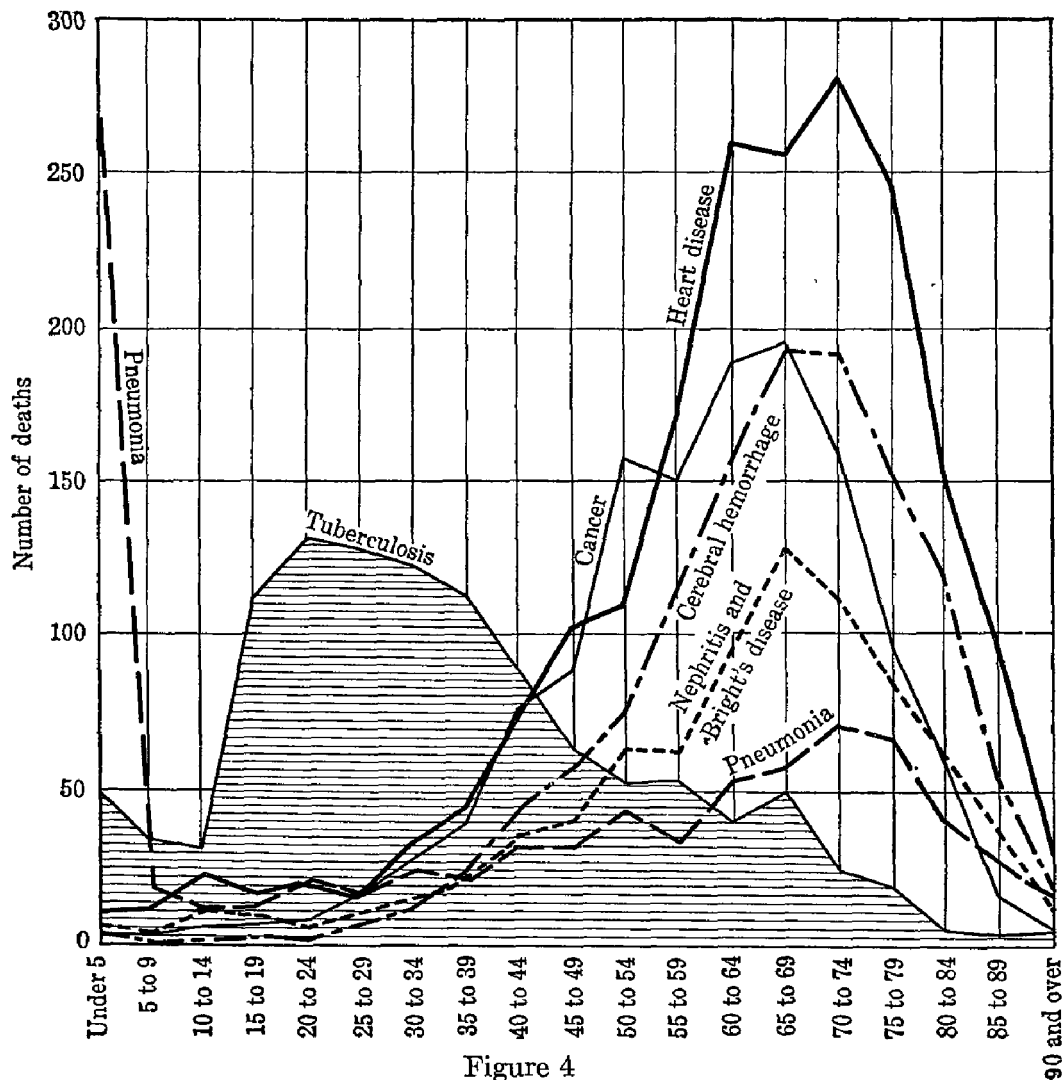


Figure 4

discovered until adolescence is past. The majority of cases are not discovered until the disease has progressed too far to be checked. Investigation of each case would probably show that it began in adolescence.

There is no other time in the life of the individual when the dread disease can so easily be fore-fended against. This

¹Washington Tuberculosis Association, 1923

is the time for the development of lung power sufficient to ward off the attacks of the dangerous bacilli. But note what we are doing in our modern educational system. Just at the onset of adolescence we begin to emphasize the sedentary occupations of school life. The hours of study become longer, the mental tasks harder and more absorbing, the pressure from parents and teachers greater, and the amount of physical exercise less. This is especially true in the case of girls. If they manifest a tendency to romp and play they are apt to be dubbed "tomboys." Happily athletics have become popular for boys and girls alike, but unfortunately the ideal of developing winning teams only, leaves the very ones who need the training most without much of any opportunity for exercise. Even in many intermediate grades they imitate the colleges and center upon training winning teams. The pupils who need the exercise most are relegated to the bleachers to watch those who need it least.

Typhoid fever is a disease which usually finds its victims peculiarly susceptible during the later years of adolescence, just as measles, scarlet fever, mumps, and some other diseases are peculiarly children's diseases. It is a matter of common observation that frequently magnificent, stalwart athletes succumb quickly to the ravages of typhoid. Between the ages of sixteen and twenty about nineteen per cent of all cases of typhoid occur, and between the ages of twenty-one and thirty fully twenty-eight per cent occur.

Eye defects are more apt to appear during adolescence than at any other period. Seggel¹ made an examination of the eyes of school children two or three times a year for sixteen years. His data show clearly that myopia is a developmental defect of adolescence. The following table is taken from his results:

¹ Hall, *Adolescence*, Vol. I, p. 259

TABLE XI

PER CENT OF GERMAN BOYS OF DIFFERENT AGES
AFFLICTED WITH MYOPIA

Age (Boys only)	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Per cent of Myopia	2.8	4.6	7.8	11.7	12.1	15.3	17.0	22.5	29.7	36.0	41.7	47.7	51.5	68.0
Per cent Increase	...	1.8	3.2	3.9	0.4	3.2	1.7	4.5	7.2	6.3	5.7	6.0	3.8	16.5

Nervous diseases. Because of the peculiar character of the physical reorganization taking place there is a special liability to *nervous* disturbances.

During the period from birth to seven or eight years of age, the brain grows very rapidly in bulk, dentition takes place, the body becomes adjusted to a new kind of nourishment, great changes in muscular coördination occur, speech is learned, and other changes are found. While in this period, involving so many important readjustments, many neurotic affections are likely to occur, such as convulsions, squinting, stammering, night terrors, infantile fever, delirium, infantile paralysis, tubercular meningitis, hydrocephalus, rickets, deaf-dumbness, idiocy, imbecility, Clouston says that every one of these can be connected with the immense brain growth of the period, with the intense trophic activity, and with the rapid metabolism of every tissue, all taking place under unfavorable conditions of heredity. Clouston says:

The next period is when muscular motion becomes coördinated fully with emotion, as seen specially in facial expression, from seven to fourteen. We have then chorea, some cases of epilepsy and somnambulism, megrim, asthma, and some eye defects.¹

¹ Op. cit., p. 11

Psycho-neural disturbances. Clouston has called attention to the remarkable phenomena by his classic volume on *The Neuroses of Development* and in his article on "The Developmental Aspects of Criminal Anthropology." Hall tells us that the profound influence of adolescence in producing neural and mental disturbances has always been recognized even by savages and throughout the whole history of medicine. Hippocrates mentions an adolescent girl who beheld a vision and then tried to throw herself into a well, and then to hang herself, regarding death as preferable to life. The Arab physicians noted the predisposition of adolescents to religious melancholy. The history of the Middle Ages abounds in such accounts of religious crazes, superstitions, the Children's Crusade, and other hysterical exhibitions in all of which adolescents were the principal actors. A very large share of all the diseases resulting from neurotic conditions have their beginnings in the period of adolescence. Probably all manifest themselves either soon after birth, as in idiocy, tendency to have spasms and convulsions; during adolescence, as in epilepsy, insanities, nervous and physical exhaustion; or during senility, when paralysis, palsy, and general nervous breakdowns occur.

During the tumult of the onset of adolescence there is great frequency of hysteria, melancholia, morbid fears, fickleness of disposition, vacillation in purpose, hypersensitivity, bashfulness or the opposite-bravado, despondency, or excessive elation, blind religious fervor amounting sometimes to fanaticism, and moodiness. Usually accompanying these psychoses the health becomes impaired, betraying neurotic conditions, the complexion is sallow, eruptions numerous, appetite fickle, sometimes being voracious and at others wanting; there are abnormal cravings

for such stimulating foods as pickles, sauces, pepper, alcohol, and tobacco; the skin becomes clammy or frequently feverish; the eye either unusually dull or scintillating, the glance shifting, the hand becomes unsteady, various muscle twitchings, liability to fatigue. In general individuals so afflicted appear over-worked, ill-nourished, hunted, distressed, worn-out. Hysteria is more frequent among girls than boys, though morbidities, melancholia, and depression with neurotic physical accompaniments are more common among boys. Epilepsy though frequently manifesting itself during infancy as does idiocy, not seldom makes its first appearance with the development of the reproductive functions. Hall has collected many investigations on this malady and I quote some of his statistics. Sieveking studied 58 cases, 40 of which were developed before the age of twenty-one. Nine different French investigators studied 1,288 cases, 486 of which began between the ages of ten and twenty. Gower collected 1,450 cases which were distributed as indicated in Table XII. Two French authorities, Landouzy and Briquet, studied 747 cases, distributed as shown in Table XIII. While not coinciding in all respects a very considerable similarity may be noted. In Gower's table, 1,311, or about

TABLES XII, XIII
AGE OF FIRST APPEARANCE OF HYSTERIA¹

TABLE XII			TABLE XIII		
Ages	No.	Per cent	Ages	No.	Per cent
Under 10	422	29.1	Under 10	70	9.4
10-20	665	45.9	10-15	146	19.6
20-29	224	15.5	15-20	245	32.8
30-39	87	6.0	20-25	151	20.2
40-49	31	2.1	25-30	64	8.5
After 49	21	1.4	30-35	47	6.3
			35-40	24	3.2

¹ Hall, loc. cit., pp. 274, 276

90 per cent, were under 30 years. In the other table over 80 per cent of the cases developed before the age of 25. About 60 per cent of all cases appeared before 20 years of age.

Adolescence seems to be a time for the appearance of most cases of insanity. Although many insane persons are not committed to asylums or do not become violent until middle life or sometimes later, yet a retrospective view of their cases usually reveals the marks of incipient insanity long before. Generally people are committed only as a last resort. Thousands of cases are patiently dealt with in the quiet of the home, and thousands of other borderland cases are not realized or at most are deemed only "queer." Hence statistical tables representing the age of liability to this disease do not represent a sufficient number in early life. Hagen's table as copied by Hall is subjoined:

TABLE XIV
AGE OF FIRST ATTACK OF INSANITY (HAGEN)

Age	Male	Female	Total
Under 15	25	7	32
16 to 20	79	90	169
21 to 25	115	100	215
26 to 30	126	105	231
31 to 35	114	106	220
36 to 40	132	64	196

Of 1,800 insane, Clouston found 230 between the ages of 14 and 25; 49 between 18 and 20; 157 between 21 and 25, or, a total of 436 between 14 and 25. Marro concluded from a study of 1,649 males and 1,257 females, including the insane, idiots, and all forms of arrested or perverted development, that the age of most rapid increase is from about 16 to 20, and that the greatest liability is passed by 25.¹

¹ Cf.—Hall, Vol. I, p. 272

Most disease unnecessary; health normal. It is not to be understood that disease is necessary at adolescence. By proper hygiene nearly all disease might be eliminated. The significant point to recognize is that because of great life intensity disproportionate growth may occur and disease result. The abundant growth should be directed in healthful channels. It is especially true in mental life that proper hygiene should ward off disease. The ones most apt to be afflicted with hysteria or insanity are those with keen, vigorous minds. Slow, plodding, lethargic youths are in no danger of insanity. Feeble-minded individuals are never insane. Insanity means a mind out of balance, and feeble-minded persons have not mind enough to get out of balance.

Better education, improved sanitation, and an observance of the laws of hygiene will most certainly reduce the appalling waste due to disease. Health is the normal condition of life and one supreme objective of education should be to promote and improve the individual and collective health of society, physically, mentally, and morally.

SELECTED REFERENCES

- A Health Survey of 86 Cities. American Child Health Association, 370 Seventh Ave., New York, 1925
- FISK, EUGENE. *Health Building and Life Extension*. The Macmillan Company, 1925
- HALL, G. STANLEY. *Adolescence*. Vol. I, Chap. IV. D. Appleton and Company, 1904
- TAYLOR-JONES, LOUISE. "Causes of Absence in One Grade of Fifteen Public Schools in Wisconsin." Public Health Reports, U. S. Public Health Service, 1924
- TERMAN, LEWIS M. and ALMACK, JOHN C. *Hygiene of the School Child*. Chap. VIII. Houghton Mifflin Company, 1929 (Revised Edition)
- TYLER, JOHN M. *Growth and Education*. Chap. VII. Houghton Mifflin Company, 1907
- WOOD, THOMAS D. and ROWELL, HUGH G. *Health Supervision and Medical Inspection of Schools*. W. B. Saunders Company, 1927

CHAPTER VII

MENTAL LIFE OF ADOLESCENTS

1. GENERAL CHARACTERISTICS

Purposes of this chapter. In a preceding chapter some of the features of physical development significant for education during adolescence were selected for discussion. In this chapter some of the most striking and significant features of mental life will be considered. There will be no attempt to catalogue and display all the units of mental life of this stage of development. Investigation in adolescent psychology has not proceeded far enough to make any exact or complete catalogue of the mental life of this period or any other. There are many facts of psychology also which have no special significance for everyday practical purposes. For example, Weber's Law, while interesting as a scientific datum, can contribute very little to the betterment of the practice of education.

In subsequent chapters some special phases of mental life, bearing upon great behavior problems, will be singled out for rather full consideration. This chapter will, therefore, survey in rather general outline the whole field calling attention to general tendencies in mental life which are concerned with large educational problems. Some of the discussion will not even be couched in conventional psychological terms, neither the jargon of analytical, introspective psychology nor the more modern fashionable behavioristic terminology. The everyday common-sense

pragmatic psychology will be employed to try to picture the adolescent as seen by the everyday teacher and parent. Even some of the topics reserved for fuller treatment will be anticipated in this preliminary survey. Later discussion is not to be considered as unrecognized repetition. This chapter may even be considered as prefatory to the chapters which follow, especially those dealing with intelligence, individual differences, emotions, mental aberration, juvenile delinquency, and morality.

Faith in their future success. After long years of classroom contacts with adolescents, their most striking characteristic to me is their unbounded faith in their future success. Often they are almost pitifully naïve in their myopic view of the oncoming hurdles and handicaps. No matter how miserably they are failing at a given moment, they "laugh it off" and say "it's coming out all right in the end." If they flunk in high school they are sure that they will find more discerning teachers in college, and if they fail in college they are sure that the world will appraise them at their true worth and acclaim them winners in the real work of life. The normal adolescent has a most exaggerated success complex. So cock-sure are they of themselves that they exhibit a brazen boldness extremely difficult to deal with, which often makes the reception of new ideas impossible. Many of the comic strips have found this trait a perennial source of caricature. "Tillie the Toiler," "Winnie Winkle," "Harold Teen," "Polly and Her Pals," and "Tailspin Tommy" are unbeatable. No matter what reverses come, brazen optimism batters down the obstacles.

This trait of character, of course, has two sides. At its worst it is baffling, exasperating to adults, especially to parents and teachers. At its best it is the quality which will enable them to surmount all obstacles with which most

pathways are strewn. No matter what fate befalls, they see sunshine ahead beckoning on to golden fields awaiting their triumphant entry. At all events this trait must be nurtured and not blighted by disappointment. It is primal in all hazard and adventure. Most so-called adolescent heroism and bravery are simply unthinking optimism and unreasoned faith in the success of untried adventures. It makes for new and hazardous adventures, conquest and fortunate adventure. Many of the justly heralded achievements benefitting the world are the result of youthful curiosity, daring, and the spirit of conquest.

Hall's "**Flapper Americana Novissima.**" Probably no one else has ever understood boys and girls so clearly or analyzed them with such sympathy, keenness, and penetration, as Dr. G. Stanley Hall, the father of child study. One of his most profoundly analytical and artistic expressions concerning youth is his prose poem, "**Flapper Americana Novissima,**" published in the *Atlantic Monthly* about three years before his death.¹ He queries concerning the origin of the term "flapper," and concludes that the dictionary definition "as a fledgeling, yet in the nest, and vainly attempting to fly while its wings have only pinfeathers," is probably most applicable. That certainly is suggestive of the type, but may not another dictionary meaning be the one which caused the word to be applied to this creature? Webster says, "One who flaps." Specifically, in reference to Swift's account of a functionary whose duty is to flap another to remind him of something likely to be forgotten. The one thing they crave is attention and they feel impelled to do something to attract it fearing that observers may forget to pay them homage. Be the origin what it may, with

¹ Hall, G. Stanley. "Flapper Americana Novissima," *Atlantic Monthly*, June, 1922, 129: 771-780

Hall, "We must, then, admit at the outset that the world has not yet found the right designation for this unique product of civilization, the girl in the early teens, who is now undergoing such a marvelous development. But why bother about names?"

As a lifelong student of human nature, I long ago realized that of all the stages of human life this was *terra incognita*. We now know much of children, of adults, and of old age, while the pubescent boy has become an open book. So I began months ago to forage in libraries, and was surprised to find how sentimental, imaginative, and altogether unscientific most of the few books, and the scores of articles about girls in the early teens, really were. Very persistent is the tendency to treat this grave and serious theme flippantly—to invoke Puck, Ariel, or Momus as the only muses who can help us in threading the labyrinthine mazes of feminine pubescence. Moreover, since the war, the kind of girl whom most ante-bellum authors depict has become as extinct as the dodo, if indeed she ever existed at all. So we must turn from literature, and come down from the roseate heights, whereon we thought she dwelt, to the street and home, and be as objective and concrete as possible.

He says in essence: Never since civilization began has the girl in the early teens seemed so self-sufficient and sure of herself. She is an enigmatical mixture of sublime selfishness and extreme affection. She can be cruel and often is to other girls. She has a great passion for secrecy so that her real inner life is a sealed book. Her imagination is in the most active stage of evolution. The innate and largely unconscious desire for attracting attention to herself is one of the great dominating traits. She will resort to any means to attract; flaming colors, bizarre dress, hoidenish behavior, if coyness does not serve, direct appeal or deception. She is exceptionally cruel to others of her own sex who seem to thwart her purpose. She may appear naïve, but in reality is sophisticated far beyond the surmise of

her elders. Notwithstanding all these traits Hall discerns the budding germs of all that is finest, wisest, most reverential, and altruistic in all humanity. Only a reading of the article entire can convey a full appreciation of Hall's keen discernment, ability in portraying human psychology with genuine artistic touch. In his concluding paragraph he writes:

Thus despite the uniformitizing effect of fashions, the contagion of fads, and the intense imitativeness of this stage, individuality is being developed, and the new and ostensive assertiveness has in it the promise and potency of a new and truer womanhood. . . . The flapper's new sophistication is thus superficial. Her new self-consciousness is really naïve, and in her affectations she is simply trying out all the assortments of temperamental types, dispositions, and traits of character, as she often tries out styles of handwriting before she settles upon one. This is all because hers is the most vital and most rapidly developing psyche in all the world. The evolutionary stages of flapperdom are so many, and they succeed each other so fast, and are so telescoped together that we cannot yet determine the order of their sequence, and all my glimpses are only random snapshots of the wonderful quadrennium, the first four teens.

Enlarged mental horizon. For two reasons youth's mental horizon becomes greatly broadened. In the first place, the natural expansion of mental powers brings increased ability to gain knowledge and second, greatly extended opportunities for personal experience are afforded. Many previous restrictions and limitations are removed by parents and teachers and youth make excursions of their own into new and unknown fields. The new independence of thinking leads them to sample and investigate many things heretofore unknown and sometimes even forbidden. They are full of curiosity. This combined with their daring and recklessness leads them to adopt the slogan "Try anything once."

On leaving the elementary school for the high school they become introduced to a suddenly expanding circle of acquaintances. In the elementary school they have been associated with the same group of pupils and the same teacher for a year, sometimes in the smaller schools, for three or four years. In the high school they may meet a new group of pupils and a new teacher every hour. The studies in the elementary school were continued through many years. There were the same arithmetic, geography, penmanship, spelling, slightly changed from day to day or year to year. They required everlasting drill and repetition and only occasional glimpses of entirely new vistas. With entrance in the high school all the studies are new and crisp. There is algebra with its curious permutations of x 's and y 's, the jargon of a foreign language, and the induction into some new science like chemistry or biology. History transports them to new lands and strange customs and personalities. Of course, occasional children, especially those slightly immature, may find this changing panorama overwhelming but the majority if not required to be too exacting in memorizing the details, experience new thrills and a feeling of exhilaration in glimpsing new scenes, acquiring new tools, new arts and crafts which give a consciousness of expanding personality. If wisely administered the new studies may afford all the thrills and all the satisfactions of new and great adventures so appealing to every adolescent. They are not so eager to learn and master detail and technique as to feel the zest of any traveler in a new and foreign country. They want to see, enjoy, and then journey onward. Something is certain to excite their desire to tarry then or to return later for more complete examination. If we could only regard secondary education as a voyage of discovery, a quest for adventure, an opportunity

to peer into some of the great mysteries of life, instead of as a period of permanent settlement and mastery of new territory unchosen by the settlers, would not the excursions into these new fields prove more satisfactory for all concerned?

2. INSTINCTS AND MENTAL UNFOLDMENT

In this discussion constant reference will be made to instincts. By this term is meant all innate potentialities possessed by an individual which prompt certain types of action without previous education on the part of the individual. Such capacities as those for acquiring speech, music, art, philosophy, religion or morality are no less instinctive than the individually unlearned acts of crying and creeping. Instincts are not absolutely fixed modes of behavior as some assume, in fact, it is doubtful if there are any such actions manifested by any individuals. Not all instincts make their appearance at birth but many are deferred for many months, some for years. Adolescence is peculiarly a time for the maturing of such instincts as those of sex, morality, and religion.

Thorndike early recognized the significance of instincts and asserted that:

What anyone becomes by education depends upon what he is by nature. Teaching is the utilization of natural tendencies for ideal ends. The first condition of a pupil's responses is the fund of instincts and capacities given by nature. . . . Teaching may be wasteful or even harmful by neglect of the fact of delayed instincts and capacities. Theology for the ten-year-old in Sunday schools and Jane Austin's novels for high school boys are much the same as cabbage for babies. Cabbage is a good food only when the capacity to digest it exists. Teaching little girls to be attentive to their dress and appearance is much the same as trying to teach an infant of six months to walk. The interest in

clothes and looks will come of itself with adolescence just as the walking instinct will come of itself at the beginning of the second year.¹

In a very recent book by Thorndike and Gates the statement is made that:

School education starts from acquired as well as original tendencies. But the original roots of intellect, character, and behavior are still potent. Education which works with rather than against them—human wants which conserve their energy while modifying them into more desirable forms and changing their direction—will have a tremendous advantage.²

Morrison has given us a sympathetic analysis of the high school pupil. He wrote:

Let us return to the pupil and find out what we know about him. Little enough in scientific form, no doubt. But still an immense amount of information as to his habitual works and ways is fairly well made out. We owe a great debt to the noble army of child students led by the veteran Stanley Hall.

In the first place, this youth when he comes to the high school is, and has been for about two years on the average, an adolescent. If a boy, he is a clumsy, awkward chap, who has lost all the nimbleness and agility which he had three or four years ago, and is now chiefly occupied physically in keeping from "falling over himself" and in keeping out of sight. Mentally his mind is dreaming and seeing things never dreamed of before. If a girl, well a mere man had perhaps best not try to do justice to her. Probably, in her own way she is at bottom in the same state as the boy, though she can laugh, or at least giggle it off, while he cannot.

Adolescence not a period for formal drill. Without attempting any lengthy analysis of the adolescent period, or yielding to the temptation to enlarge upon its marvelous beauties and possibil-

¹ *Principles of Teaching*, p. 34

² Thorndike, Edward L. and Gates, Arthur I. *Elementary Principles of Education*. The Macmillan Company, 1929, p. 81

ities, one conspicuous and enormously important and indubitable fact stands out: it is the worst period between the shedding of the milk teeth and the grave for anything like drill. It is a period when new ideas, especially those of a general spiritual type, are entering the opening mind in hosts of new forms; when the physical organism is undergoing a process of complete reorganization and readjustment; and when mental attitudes and powers are undergoing a similar and corresponding change. In these days, Nature cries out to the schoolmaster with his character-building schemes: "Hands off; this is my job; wait." Nothing could be less suitable to this youth's nature than the Latin beginner's book and the algebra and the formalized literary analysis with which the modern schoolmarm, just out of college, but yet ten thousand years older than the youth, greets him. The wonder is not that "elimination" takes place at a frightful rate at the beginning and during the first year of high school, but rather that anybody goes to high school at all.¹

Maturity of all powers attained. With the advent of adolescence all powers, physical and mental, come to maturity. Those that have become dominant at an earlier stage still continue to develop although not so rapidly as before. In addition, other powers that have lagged behind push forward and assume a new and often a dominant relation. In physical life the body assumes new proportions in conjunction with unfolding sex potentialities. Likewise various mental characteristics manifest signs of awakening to new possibilities. During the nascent period of a function it should be stimulated, guided, and controlled. If exercise is not provided, the power may not develop normally, just as premature exercise may cause arrested development.

Dominance of physical. Notwithstanding the fact that mental powers are maturing rapidly the most striking sex characteristic of adolescence is the domination of the

¹ Morrison, Henry C. "Reconstructed Mathematics in the High School." The Thirteenth *Yearbook* of the National Society for the Study of Education

physical. With the development of the sex organs, with the acquisition of muscular power in the boy and the new figure of the girl there appears the desire to utilize the mastery of the world for self. In the savage state, the adolescent boy takes to the hunt and chase and war to demonstrate his new power, he fights adversaries for the capture of his wives. The savage adolescent girl begins to display her sex charms to attract male admirers. In civilized society the sex urge is the same, the psychological procedure identical, and the method only slightly changed. The adolescent girl paints, powders, dresses, ornaments, and crucifies her body to outdistance female rivals and to attract male admirers. The adolescent boy becomes cowboy, soldier, football hero in order to assert his physical prowess and his manhood's estate. He frequently sports a roadster, a bucking broncho, or an airplane in order to outrival competitors in the war to win feminine approval. Adolescent boys rarely go in for philosophy, higher mathematics, or literary production to dazzle and attract female admirers. It is almost universally through physical prowess that sex appeal is made.

All this is especially significant in the education of adolescents. Their interest in physical prowess points the way toward sane and healthful development. There ought to be unending opportunity for both sexes to build up physically to the utmost perfection possible in each individual case. Sports, games, physical contests, tests of muscular skill appeal to the youth and enable him to pass through this period without morbid interest in primary sexual life. That which takes the individual away from self to the consideration of others should be sublimated in the secondary sex development.

3. SOME SPECIAL CHARACTERISTICS

Continued interest in concrete. The adolescent is intensely interested in the world of physical phenomena. The sense organs are mature and, psychologically, perception of concrete objective reality is potentially as efficient as it ever will be. The youth needs only stimulation and guidance to be keenly alive to the wonders of his physical environment. All kinds of natural phenomena—physical, chemical, biological, and astronomical—may be studied with great zest under the guidance of teachers endowed with a gift for leadership.

In the early stages of adolescence the work must be very similar to that in the intermediate grades. It must continue to be simple, objective, and concrete. It may begin to be more abstract, to deal with laws and the development of generalizations. Algebra may be begun and its applications made to arithmetic, physics, and elementary chemistry. Abstract reasoning is emerging but developing very slowly. In most high schools, algebra is made so abstract, complex, and difficult as to repel. In the later high school years algebra and geometry should be made rigidly exact and demand the finest shades of exact abstract reasoning. In the earlier adolescent years they should be as objective, concrete, and mechanical as possible. Algebra, especially, at the outset should be largely a matter of mechanical manipulation. Easy inductions may be required in developing some of the simpler concepts and processes. But the understanding of the binomial theorem and its rigid demonstration, for example, require a development of reasoning ability far beyond most pupils in the early stages of adolescence.

Scientific and philosophic awakening. With a widening horizon acquired through personal experience and because

of the unfolding power of reasoning, the youth become much more independent in their thinking than previous to this time. This new independence is reflected in manifold directions and relations. For example, they begin to be interested in new types of studies and in new aspects of former studies. Algebra may be safely undertaken. Physics, chemistry, and the biological studies may be approached from the elementary scientific, and philosophical phases. Before this time the almost purely objective and phenomenalistic phases alone have awakened interest. Before this time the "what?" has dominated the child's thinking. Now, he begins to want to know "why?" as well. It must not be assumed that there is a sudden cessation of concrete thinking and an abrupt transition to abstract thinking. Interest in the concrete continues undiminished, but a new type of thinking unfolds to reinforce the earlier more childish method.

Adolescent emotional characteristics. While the emotions of the child are vacillating and generally superficial, the emotions of adolescence begin to be much more intense but more stabilized. The outbursts of temper, of joy and enthusiasm, exhibited by the child, give the appearance of deep emotions but in reality they are very shallow. With the adolescent development in thought-power, regulative principles serve to guide the emotional life into habitual channels. Adolescents often appear stolid and blasé when in reality they are merely exercising control. Could one but gain access to their real inner life there would often be discovered deep and strong undercurrents of emotion. These sometimes break their bounds and result in rash and unexplainable acts. This is a time for the stimulation and development of rapidly unfolding intellectual, æsthetic, and altruistic emotions. A fuller treatment will be found in Chapter X.

Growing self direction. The adolescents' new independence in thinking is recognized by those around them and they are accorded more freedom in managing their own affairs. They come and go largely through their own planning with much less supervision from parents than before. In the high school they are given larger freedom in planning study schedules, in electing studies, and in athletic and social affairs. Frequently the adolescent assumes such independence and control of his own activities that he quits school and secures a job of his own choosing or into which he drifts by chance. Sometimes he takes to the street and becomes an idler and a loafer, or he takes to the road and becomes a tramp or a hitch hiker, seeing the world on his own account. As pointed out in later chapters, fortunate chance environment is frequently the only factor that saves the bright, promising adolescent from becoming an outcast and a burden upon society. Fortunately sometimes, the very experience in independent management and self-determination is what develops the really great ideals and purposes which dominate the remainder of his life. How fortunate if society, including parents and teachers, could provide attractive, alluring, and wholesome environment and at the same time give full rein to the budding enthusiasms, independence and self-assertion so necessary to complete unfoldment of manhood's and womanhood's potentialities.

Enlarging social traits. With adolescence, membership in organized groups becomes a dominant characteristic. Before adolescence, boys form baseball teams and social clubs but they seldom hang together long unless very closely directed by older leaders. Similarly preadolescent girls' groups have little cohesiveness. With adolescence, however, gangs, clubs, and societies are everywhere formed and possess remarkable permanence.

Sheldon made a searching study of boys' spontaneous organizations. He found that 1,139 boys had 934 societies. Similarly 911 organizations were found among 1,145 girls. Forbush reported 862 societies among 1,022 boys and Puffer who made a study of the Lyman Industrial School for Boys found that 128 of the 146 belonged to gangs. The morning paper chronicling some youthful depredation is most certain to mention a gang or band to which an erring boy belonged. Often the gang becomes a predatory society, but even more often athletic clubs are organized. The writer remembers a boxing club to which he belonged. It met nightly in a back alley shanty during an entire winter. It was organized because boxing had been forbidden at school.¹

In college there is no other feature of adolescent life that has the significance and enduring qualities of the fraternity and sorority. They are par-excellence adolescent social organizations. Even in high school they would loom up quite as large as in college if they were not ruled out by faculties and school boards. Doubtless school officers are correct in their belief that they are inimical to democracy when managed by immature youth. Teachers are in duty bound to recognize this trait of youth for social organization, and when wise they find democratic substitutes which provide for organization and independent social diversion. This is secured through the manifold extracurricular organizations, skilfully set going and supervised indirectly by the faculty.

Altruistic and religious awakening. As suggested earlier and developed more fully in a later chapter adolescence is the nascent period for the unfoldment of moral thoughtfulness and the golden time for the inculcation of regulative moral principles. To begin much earlier is a waste of time and to postpone much later may mean absolute impossibility. Religious observance and practices may properly

¹ Bolton, Frederick E., "The Social Traits of Childhood and Youth" in O'Shea's *The Child: His Nature and His Needs*, p. 118

bulk large in childhood education, but religious principles interest little and are not grasped before the period of abstract thinking. With the new independence in thinking and with the new meanings of sex and family, moral and religious questions are forced into the focus of consciousness. This is the time to begin real moral and religious education. In Chapter XVI the consideration of moral and religious questions is not opposed by adolescents but really welcomed by them if presented tactfully.

The parental instinct is, as John Fiske has pointed out, the basis of all morality. The increased length of human infancy and the helplessness of the young developed parental care and solicitude. Fiske wrote that even among the higher animals "The period of infancy is correlated with the feelings of parental affection, sometimes confined to the mother, but often shared by the father, as in the case of animals which mate. Where, as among the lower animals, there is no infancy, there is no parental affection. Where the infancy is very short, the parental feeling, though intense while it lasts, presently disappears and the offspring cease to be distinguished from strangers of the same species. . . . The prolonged helplessness of the offspring must keep the parents together for longer and longer periods in successive epochs; and when at last the association is so long kept up that the older children are growing mature while the younger ones need protection, the family relations begin to become permanent."¹

Out of this germinal social consciousness there gradually develop sympathy, love, and altruism, extending beyond the family to the tribe or clan, to the village, city, state, nation—all humanity.²

¹ Fiske, John, *Cosmic Philosophy*, Vol. II, p. 343

² Cf.—Bolton, Frederick E., "The Social Traits of Childhood and Youth" in O'Shea's *The Child: His Nature and His Needs*, p. 123

4. SOME SPECIAL PHASES OF ADOLESCENT PSYCHOLOGY

With this general introduction as a background, a more intensive discussion of certain dominant mental characteristics of adolescence will be essayed. It may be emphasized again that the purpose of this chapter is not to duplicate the systematic treatment of these topics which may be found in books on general or educational psychology. Several of the topics like the emotions, interest, and imitation, have been more fully treated from a systematic and analytical point of view in my *Principles of Education*.¹

SELECTED REFERENCES

- BIGELOW, MAURICE A. *Adolescence: Educational and Hygienic Problems*. Funk and Wagnalls Company, 1924
- BOLTON, FREDERICK E. "The Social Traits of Childhood and Youth," in O'SHEA, M. V. *The Child: His Nature and His Needs*, Chap. VI. The Children's Foundation, 1924
- BROOKS, F. D. "Rate of Mental Growth, Nine to Fifteen." *Journal of Educational Psychology* (1921), 12: 502-510
- BURNHAM, WILLIAM H. *The Normal Mind*. D. Appleton and Company, 1925
- DEARBORN, WALTER F. "The Development of the Intellect in Childhood and Youth," in O'SHEA, M. V. *The Child: His Nature and His Needs*, Chap. VI. The Children's Foundation, 1924
- DOUGLASS, AUBREY A. *The Junior High School*. Fifteenth Yearbook of the National Society for the Study of Education, Part III, 1917
- DOUGLASS, AUBREY A. *Secondary Education*, Chap. VII. Houghton Mifflin Company, 1927
- HALL, G. STANLEY. *Adolescence*. 2 vols. D. Appleton and Company, 1904
- HALL, G. STANLEY. *Youth: Its Education, Regimen and Hygiene*. D. Appleton and Company, 1911
- HALL, G. STANLEY. *Educational Problems*. D. Appleton and Company, 1911

¹ See also my *Everyday Psychology for Teachers*. Both published by Charles Scribner's Sons

- HALL, WINFIELD S. "The Adolescent Period," in O'SHEA, M. V. *The Child: His Nature and His Needs*, Chap. XV. The Children's Foundation, 1924
- HAMILTON, A. E. *The Real Boy and the New School*. Boni and Liveright, 1925
- HOLLINGWORTH, LETA S. *The Psychology of the Adolescent*. D. Appleton and Company, 1928
- INGLIS, ALEXANDER. *Principles of Secondary Education*, Chapters I, II. Houghton Mifflin Company, 1917
- KING, IRVING. *The High School Age*. The Bobbs Merrill Company, 1914
- KOOS, LEONARD V. *The American Secondary School*, Chap. II. Ginn and Company, 1927
- PECHSTEIN, LOUIS A. and MCGREGOR, A. LAURA. *Psychology of the Junior High School Pupil*, Section I. Houghton Mifflin Company, 1924
- PRINGLE, RALPH W. *Adolescence and High School Problems*, Chap. V. D. C. Heath and Company, 1922
- PRINGLE, RALPH W. *Methods with Adolescents*, Chap. II. D. C. Heath and Company, 1927
- TYLER, JOHN M. *Growth and Education*, Chapters XII, XIII. Houghton Mifflin Company
- TRACY, FREDERIC. *The Psychology of Adolescence*. The Macmillan Company, 1920
- WHIPPLE, GUY M. *Principles of Secondary Education*. Edited by MONROE, PAUL. Chap. VII. The Macmillan Company, 1914
- WEMBRIDGE, ELEANOR ROWLAND. *Other People's Daughters*. Houghton Mifflin Company, 1926

CHAPTER VIII

ADOLESCENT IMITATION

1. MEANING OF IMITATION

Popular meaning. Imitation is popularly thought to mean the intentional copying of one individual by another. It is also assumed that imitation is a mark of immaturity and servility. Little children are considered as very imitative, but older persons are supposed to determine most of their actions rationally and independently. As a matter of fact adolescents and adults are very imitative. To imitate is not necessarily to be servile, nor is it a characteristic only of the immature. To know what and when to imitate is a mark of education. To be imitative is to be educable; the greater the imitativeness the greater the educability.

Scientific meaning of imitation. Fundamentally imitation means the copying of one's own actions. Whenever any action is performed through organic memory an impression is retained with a tendency toward its repetition. This tendency toward repetition is a universal property of all organic tissue. Any structure, particularly nervous structure, reacts when stimulated. This is a law of life. When behavior has occurred there is a tendency or disposition to repeat the same action. Habit results when a stimulus followed by the reaction is often enough repeated. This tendency toward repetition of one's own actions because of the law of life is termed imitation. Imitation is thus seen to be primarily reflex, mechanical behavior. Undoubtedly many of the actions of plants and lower animals are of this type.

What are often termed tropisms are doubtless partly reflex imitations of previous experiences.

O'Shea has pointed out in striking illustrations how voluntary imitation follows only after involuntary experience in doing the particular thing. He relates how he tried to teach his boy of twenty months of age to throw a ball to the ceiling. The child could not imitate his father merely by seeing the ball tossed upward. Only when the child had released the ball without knowing how, could he throw it upward. He was then able to imitate himself. His imitation of his father was in a very general way and not of the specific movements.

Another illustration given by O'Shea is in connection with learning to play golf. The good teacher compels the learner to get into the characteristic positions necessary for success. The teacher does not trust to the eye of the learner alone, but compels the learner:

To take account of special coördinations by coercing attention to them. . . . He will actually manipulate the muscles of his pupil, and so give him the *feeling* of the special adjustments he is trying to establish. . . . The movement to be imitated must already have been performed spontaneously and have attracted the performer's attention.¹

2. IMITATION AT DIFFERENT AGES

Imitation of children and adolescents compared. While adolescents are not a whit less imitative than children, their imitativeness is of a different type. The child imitates automatically, spontaneously, and blindly whatever happens to be dominant in his environment. On the other hand, the adolescent's imitation is *selective*. He chooses his copy. Then whatever his "set" approves he copies with

¹ O'Shea, M. V. *Dynamic Factors in Education*, p. 105

the most abject slavishness. It is often pathetic to note the foolish adherence of certain youths to customs absolutely opposed to their own welfare, but conforming to what they believe is smart and classy.

Illustrations of adolescent imitation. This tropism in reproducing their group conventionalities may be observed in innumerable ways. The first striking characteristic arresting attention to the imitativeness of adolescents is perhaps in the matter of dress. Little children accept uncritically whatever garb their mothers choose for them. Middle-aged and older people cling to whatever they have become accustomed to wear in late adolescence. But high school and college youths are ultra-meticulous in demanding the latest thing in vogue among their set. This is true whether it is the most expensive summer furs or the gauziest winter hosiery or the dirtiest, most wrinkled corduroys of the college campus.

In the early nineties, college boys, "men," they called themselves, wore the latest derbies, frock coats, and all the accessories of the gentleman of leisure that could be found in the exclusive haberdasheries. College men's clothes were a tremendous item of expense at a time when many men were very poor. The man who could not dress in "tailor mades" was ostracised.

And now, college "boys" who are really collegiate could not be told from loggers in the woods or section men on the railroad or "hayseeds" on the ranches. The whole outfit of baggy corduroys, old sweaters, unpolished gunboat shoes, and tieless hickory shirts could be purchased in a railroad avenue red-front store for ten dollars new or in a second hand shop for a third of that amount. But the boys now, many from millionaire homes, are serene and absolutely self-satisfied with the consciousness that they are

thoroughly collegiate from the top of their hatless heads to the soles of their broad gauge shoes, their garterless hose, and the frayed, muddy cuffs of their flapping corduroys. When it is really cold they are coatless and when it is tropical they have their nightgown-like top coats to impede free locomotion.

The co-ed is likewise absolutely serene in the consciousness of her hand-painted complexion viewed in public every few minutes in the inseparable mirror, her little cloche hat cocked to one side, the abbreviated, so-called skirt, and the three-story French heels necessitating hobbling like a wooden-legged marionette.

Close range observation reveals the same homage to their set in the parrot-like phrases which they all echo. Every statement of the simplest matter of fact is replete with hyperbole. Any other form of expression would be considered decidedly mid-Victorian. The most bizarre adjectives imaginable are chosen to describe common everyday objects and events.

To get an idea of imitation among adolescents one needs only to observe any adolescent boys or girls with whom he may come in contact—their behavior in general in school, their manner of reciting in the classroom, their actions on the street, in the home, at church, at a party, in any situation where groups are thrown together. I have frequently watched a group of high school pupils on their way to school and have noted the same fashions in dress, in wearing the hair, and in slang expressions. If one wears an overcoat it is because the rest do, not because it is necessary; if one carries an umbrella, all must do so. Sometimes all ride in the street-car; at other times everyone walks and one would scorn to ride. Recently all carried their lunches in a mussy paper sack folded in an approved fashion and carried in a certain way. One would stay out of school rather than carry a neat lunch-box. The songs they sing, the phrases they use, the movies they attend, the shows they praise or taboo, the popular football

heroes they acclaim, the things they approve or decry—all are largely the product of unstudied imitation which they have caught from the crowd.

It is usually believed that children imitate their elders, but a moment's consideration shows this to be a superficial observation. Whom do the high schoolers imitate in their dress, their speech, their attitudes, and their prejudices? Whom do the college freshmen copy? There is, certainly, usually a wide distance between the dress of the freshman and the professor. In the ideals espoused, the conduct followed, who are their patterns? One who knows a college campus or classroom is not misled into the wrong answer. The youth's everyday associates are the ones that slowly but surely determine his actions, his habits, his ideals.¹

At no period of life is imitation more slavish than during adolescence. While children imitate much without reflection, yet they care little for public opinion and imitate little merely to receive personal approval. The adolescent, on the contrary, is so completely absorbed in securing the approval of those whose opinion he courts that he is as absolutely enslaved as if indentured or hypnotized. His idealization amounts to apotheosis, and he is blind and deaf to all else. Popular sentiment rightfully cried out against the fagging system in the great public schools of England, but it was not because the fags wailed or bemoaned their hard lot. They doubtless considered their menial tasks not as degrading, but on the contrary, as the highest honor. What boy has not run chasing the ball for the big fellows until ready to drop from exhaustion? How many boys have not been beguiled by some unscrupulous, though, to them, fascinating bully into doing things which would horrify their parents, and later themselves, simply to meet the approval of the hero? Fagging at Rugby was censured because of the debasing effects of this early slavery of the

¹ Bolton, Frederick E. *Everyday Psychology for Teachers*, p. 231

will, which blighted the life of many a youth who was too frail-willed to outgrow the temporary hypnosis.

Study habits. Imitation determines the high school and college student's attitude toward study. In some institutions there is a seriousness that pervades the whole school. In others there is a flippant attitude toward study manifested by everyone. To study hard, brands one as a grind or a highbrow. Nobody should appear interested in anything that would mark him as an "intellectual." He must appear to doze during the lecture, avoid the library, and never be caught "cracking" a book. At the present time study among high school students is on a very low plane. Few high school pupils study at home in the evenings. They are too much engrossed with football, dramatics, parties, necking, joy riding, and earning money, to be much interested in study. In the days ago high school pupils used to study two or three hours every evening. Two or three parties a year, a very occasional "show," coasting or skating on Friday evening and on Saturday during the winter constituted the main recreation. Football was unknown, baseball was played during the recess period by the boys, and study was the regular order for the rest of the time.

College students a generation ago did not lead the gay, carefree life known to college students to-day. Athletes did not occupy the center of the stage, great stadiums had not been imagined, and students considered it good form to study. They were not taught to believe that "study must not interfere with activities." The freshman on reaching a college campus found a seriousness of attitude toward studies and considered it "good form" to manifest an interest in his books and studies. Students who bluffed and flunked lost caste and felt disgraced. Students then were no more able than students now, but the standards which

they found to imitate were vastly different from those of the present.

At the present time there is no pride in fine scholarship among the majority of high school and college students. They wish high grades if they are needed for a recommendation or some certificate, but the great majority are perfectly willing to secure them through bluffing and cheating instead of through hard work.

Cheating in examinations. The codes of honor among high school and college adolescents with reference to cheating in examinations are almost wholly determined by imitation. It was recently reported in the daily press that about seventy-five per cent of all the boys in a great private preparatory school in New England had cheated in their college entrance examinations. They were doubtless fundamentally not a whit worse or better than the average of secondary school boys in New England, the Northwest, the Southwest, in America, Old England, or the Orient. There are probably some other schools where there is less cheating, still others where there is more. In each case it does not reflect any fundamental perversity or saintliness. The difference is due to imitation. In some way or other, certain standards have grown up and, once established by a few leaders, become binding upon the entire group of almost hypnotized worshipers.

Even in colleges and universities to-day cheating is rife because sanctioned by the leaders. In one of my own classes of prospective teachers I was shocked recently by receiving the following unsigned note: "You have no idea how much cheating is going on in this class." In another a note, signed this time, stated: "I, myself, have counted eight in this class copying from their notebooks in this examination." This is a university where the honor system

had been in operation for many years! The students were not fundamentally immoral. They were simply average adolescents, untrained in moral thoughtfulness and they weakly and foolishly imitated what was very generally approved as good form. The whole question of developing moral thoughtfulness is elaborated in the chapter on character education.

Political ideals. The average adolescent has very vague political ideals. Most of them are thinking far more about football, junior proms, joy rides, house parties, the next date, the love story in the last magazine, what clothes they shall wear, the bathing beach, the movie celebrity, or perchance how to pay the board bill. It is surprising how few really read the newspapers or the standard magazines unless assigned in class. Consequently their political beliefs are an echo of what has been talked in the home and that generally in monosyllabic language. Very seldom in most homes is real political discussion heard. The family mention the names of the leading candidates on the ticket, and those that belong to the traditional party are the ones to be voted for—"of course." The reasons are generally no more explicit or logical. Young people grow up in this superficial political atmosphere and simply echo what they have heard, either in the home or in their youthful set. The ultimate source of the opinions is the political propagandist who uses the newspaper, the radio, and the movie to broadcast opinions which he knows will be imitated. Education through the schools should develop a more thoughtful and critical attitude, but in many ways nothing has so increased the mob mind as the schools—lower and higher. The causes of this are discussed in the chapter on character education.

Religious ideals. The religious beliefs and practices of most adolescents are determined through imitation. It is

seldom that one embraces a particular faith or creed through deliberation and reflective thinking. The general lines are pre-determined by birth and nationality. One is a Moham-medan because he was born in India, another a Christian because he was born in Italy or England. Some are Meth-odists, Baptists, Presbyterians, or Catholics because they were born in families in which the particular church affilia-tion is the rule. I have often asked college students how many have deliberately broken away from the parental church fold, and have found only a very small percentage, indeed. Some may have become lukewarm and inactive, but there is still a leaning toward the church to which father and mother belonged. Most generally at mother's knee religious beliefs have been implanted and ties established. If bonds are severed and new affiliations developed later it is generally through imitation of adolescent companions who belong to other churches. A rational analysis and a deliberate choice is not the usual experience. If old moor-ings are rent asunder and the adolescent drifts into agnosti-cism, Menckenism, or other isms it is usually because of blind imitation of some attractive companion among the intelligentsia whom the youth thinks it smart to follow. It is not through studied reflection. He cuts adrift simply because it is the smart thing to do.

Hardened attitude. Since the World War there has been a great flair among many adolescents to wish to seem "hard boiled." They drive their automobiles at a reckless speed, defying speed cops and laws, laughing at dangers, mirac-ulously escaping innumerable accidents, but becoming the victims of many others. The boys think it smart to pick up girls on the street corners and go to the roadhouses, and the girls think it smart and daring to go with strangers, without parental permission, to remain out all night, to smoke

cigarettes and drink from hip flasks with the boys. They flout the laws and uphold the bootleggers and the dope-peddler, and do whatever dare-devil stunts are suggested by crack-brained leaders of their set. All traditional conventions are set aside and scoffed at as mid-Victorian.

They do these things not because they are innately depraved. Many of them do not even enjoy the insanely idiotic conduct, but they are led around like puppy dogs by those who set the fashions in conduct as in clothes.

It is the "correct thing" for adolescents in some circles to rail at "pop" and "mom" as being too old-fashioned to merit the commonest civility. They jeer at religion, they scoff at the laws, they snicker when the teacher talks of morality, and they treat with disdain all efforts to improve society. The churches are emptied, the movies are thronged, the roadhouses are crowded, in this jazz-mad age bent only on "making whoopee." Happily it is the "correct thing" to go to high school and college. It is not always for self-improvement or the uplift of society. It is more often because it is the socially approved thing to do. But whatever the motive, it is fortunate that they imitate in going to school. If educators can only realize their opportunity and responsibility they may provide copy worthy of imitation by this eager, expectant, serious, but sadly illusioned throng of adolescents. The school may provide a balance wheel so necessary if civilization itself is to be preserved. The youth come to college saying, "We study men, not books!" We must patiently answer, "Yes, you should study men. The proper study of mankind is man. But you should study not only *freshmen*. There are other men worthy of imitation—men like Shakespeare, Plato, Aristotle, Edison, and women like Joan of Arc, Catherine the Great, Emma Willard, Mary Lyon, Alice Freeman Palmer, Evangeline

Booth, Jane Addams, and a host of others." We must help them to look *up* as well as merely *around* on their own immature group for copy to imitate.

Adolescent language. It must be acknowledged that adolescent language is picturesque. The total collection of epithets and slang expressions is certainly enormous. But one reason why it is so striking is that the expressions are generally inapplicable. Why everything from a sweater to a League of Nations is "swanky" is so ludicrous that it can not fail to evoke a smile.

College and high school students have their own jargon. This differs at different times and in different sections. In one university, to study is to "bone," in another to "crack a book," in others to "grind," to "plug," to "dig," to "plow," "tall cramming." To recite poorly in one place is to "fall down," in another to "flunk," in another to "fall through." In one university to fail in examinations is to be "plucked," in another to "bust." A good recitation sometimes "knocks the professor's eyes out," at others it "cooks" him, at others merely "strikes" him or "squelches" him.

Just now, according to some recent student testimony, current picturesque college slang includes "crash the gate," "make it snappy," "get hot," "pipe down," "boloney," "shake a leg," "and how," "gearjamming," "Where do we chow?" "pillow smasher," "hot and bothered," "whoopee," "snazzy," "patter," "copadagus," "copascitic," "for crying out loud," "or what have you?" "go peddle your fish."

Manifestly these are not limited to college students. Everyone may be met with in the movies and in the current short stories in the popular magazines. Whether college students coined the expressions or appropriated them or whether the movie comedians borrowed them from the

college population would be difficult to prove. But that they all use them spontaneously needs no proof. Demonstrations constantly assail the ear and the eye.

The following comment on college slang was contained in a recent number of the *University of Washington Daily* regarding Stanford slang.

Stanford Uses Slang Differing From Ordinary

"Bud, I sure took a merry beating in the last spasm, and I'm nigh onto busting off the squad. Got a smoke-up in every course just because I didn't crack a book, do any dry-balling or crawl an exam."

This may or not make sense to the average student on this campus, but it is collegiate slang on the Stanford campus. On every college campus slang is different. The Stanford student says he got a "valentine" in every course for the simple reason that he didn't "hit a book."

The only solution for the Californian is to "get off the dime" and quit "fussing the co-eds." This slang is so strange that a student traveling from one college to another must almost learn a new language.

Manners and customs. College government largely depends upon the public sentiment espoused by the students themselves. Faculty rules are insignificant in comparison with the laws enunciated by the leaders of the classes. High-school pupils, though not so assertive, idealize and idolize even more blindly. What is more suggestive of the cataleptic trance than the high-school boy in love, especially with some one old enough to be his mother? Were youth not purblind in their hero-worship, what boy would repeat the deathly sickness of his first smoke simply to project himself into his ideal world? What college freshman would don a foolscap, a dress-suit, or a clown's garb, and labor six hours rolling a peanut through the main street of the town, or do the thousand and one other equally

inane things so lacking in fun for adults that even the street laborers will not turn their heads to look? We should not bewail such actions nor pronounce censure, but we should understand the mental attitude and be sympathetic. These are perfectly normal phases of development, peculiar to those ages, and will be moulted in due time.

Because of this blind and excessive fidelity to a course of life once assumed, it behooves the guardian of youth to provide desirable copy for the youth to imitate. Many a youth's aim has been low through life simply because he has too early idolized unworthy copy. It is highly important that boys and girls both see something of the world outside their own circumscribed community before developing too fixedly their ideals of life work, and especially of life companions. Savonarola was saved to the world for a monumental work because the ignorant shepherdess rejected his suit when he was a callow youth. His wanderings caused by his fancied dejection gave him an enlarged horizon and higher ideals.¹

Royce says that:

Among children and among adults virtue and vice alike are, under favorable circumstances, "catching"; that fashion has, in certain matters, an irresistible sway; that not only commercial panics, and mobs, and "fads," but also great reform movements, and disciplined armies, and such historical events as the conversion of nations in the old days from heathenism to Christianity, all illustrate, in their several ways, the potency of imitative tendencies; and that art itself, at least according to Aristotle's famous definition, is essentially imitation. We know that there are sometimes epidemics of crime or of suicide. We know that the doleful prevalence of the current popular melody is due, not to a love of music, but to the insistent force of the imitative tendency. Turn, thus, which way we will, the familiar presence of the imitative functions in human life impresses itself upon us.²

¹ Cf.—Bolton, Frederick E. *Principles of Education*, p. 423

² *Century Magazine*, 48: 138

Howells has glimpsed the unseen forces of public opinion which reign in the boy's world and has given us a delightful account of it in "A Boy's Town." He says:

Everywhere and always the world of boys is outside of the laws that govern grownup communities, and it has its unwritten usages, which are handed down from old to young, and perpetuated on the same level of years, and are lived into and lived out of, but are binding, through all personal vicissitudes, upon the great body of boys between six and twelve years old. No boy can violate them without losing his standing among the other boys, and he cannot enter into their world without coming under them. He must do this, and must not do that; he obeys, but does not know why, any more than the far-off savages from whom his customs seem mostly to have come. . . . There were some things so base that a boy could not do them; and what happened out of doors, and strictly within the boy's world, had to be kept sacredly secret among the boys. For instance, if you had been beguiled, as a little boy, into being the last in the game of snap-the-whip, and the snap sent you rolling heels over head on the hard ground, and skinned your nose and tore your trousers, you could cry from pain without disgrace, and some of the fellows would come up and try to comfort you; but you were bound in honor not to appeal to the teacher, and you were expected to use every device to get the blood off you before you went in, and to hide the rent in your trousers. Of course, the tear and the blood could not be kept from the anxious eyes at home, but even there you were expected not to say just what boys did it.

They were by no means the worst boys who did such things, but only the most thoughtless. Still, there was a public opinion in the Boy's Town which ruled out certain tricks, and gave the boys who played them the name of being "mean." One of these was boring a hole in the edge of your school desk to meet a shaft sunk from the top, which you filled with slate-pencil dust. Then, if you were that kind of a boy, you got some little chap to put his eye close to the shaft, with the hope of seeing Niagara Falls, and set your lips to the hole in the edge, and blew his eyes full of pencil-dust. This was mean; and it was also mean to get some unsuspecting child to close the end of an elderwood tube with

his thumb, and look hard at you while you showed him Germany. You did this by pulling a string below the tube, and running a needle into his thumb. My boy discovered Germany in this way long before he had any geographical or political conception of it.

I do not know why if these abominable cruelties were thought mean, it was held lawful to cover a stone with dust and get a boy, not in the secret, to kick the pile over with his bare foot. It was perfectly good form, also, to get a boy, if you could, to shut his eyes, and then lead him into a mud-puddle or thicket of briars or nettles, or to fool him in any heartless way, such as promising to pump easy when he put his mouth to the pump-spout, and then coming down on the pump-handle with a rush that flooded him with water and sent him off blowing the tide from his nostrils like a whale. Perhaps these things were permitted because the sight of the victim's suffering was so funny. Half the pleasure in fighting wasps or bumble-bees was in killing them and destroying their nests; and the other half was in seeing the fellows get stung. If you could fool a fellow into a mass-meeting of bumble-bees, and see him lead them off in a steeple-chase, it was right and fair to do so. But there were other cases in which deceit was not allowable. For instance, if you appeared on the playground with an apple, and all the boys came whooping round, "You know *me*, Jimmy!" "You know your uncle!" "You know your grandfather!" and you began to sell out bites for three pins for a lady-bite and six pins for a hog-bite, and a boy bought a lady-bite and then took a hog-bite, he was held in contempt, and could by no means pass it off for a good joke on you; it was considered mean.

3. EDUCATIONAL VALUE OF IMITATION

When the nature and function of imitation are once understood we shall try to utilize this quality purposely in education. We shall utilize it in two ways: (a) By placing pupils in worthy surroundings and resting assured that reflexly they will repeat much that comes within their observation, even though they are not aware of the objects and activities; (b) By providing models, literary, artistic,

linguistic, models of conduct, social customs, and ethical ideals which we shall ask them to study and then copy in their own lives. Of course, this procedure has been followed for a long time to a certain extent; but we have feared that imitation is too servile and have not implanted sufficiently deep the worthy models before asking for independence and originality.

A recent leaflet from Antioch College emphasizes the tremendous importance of imitation in education. The leaflet is of special significance because Antioch College claims to be a college having for its outstanding objective the development of independence and resourcefulness of its students. It claims to be unique in that respect. President Morgan says in the leaflet that discrimination in imitation is an evidence of intelligence and self-respect.

Antioch teaches imitation. Only by imitating masters of English can a great style be won; only by imitating the patient, rigorous integrity of the scientist can the scientific method be achieved; only by imitating superlative expressions of genuine good will can the finest of motives find the finest expressions.

A chief duty of the college is to teach discriminating imitation. Among the millions of commonplace men there have arisen here and there great spirits who have lived largely, felt greatly, and seen far. They were men who imitated greatness, and themselves achieved greatness. Even originality may come from imitating original men. Young people must imitate. If they can be inspired to search out and to imitate greatness, their lives will surmount the commonplaceness that surrounds them.

As imitation of greatness leads to larger living, so imitation of the trivial and commonplace fastens upon students habits which prevent great achieving. A college must continually fight against imitation of the trivial.¹

Imitation in morality. Morality among adolescents is largely a matter of imitation. Among children it is still

¹ *Antioch Notes*, October, 1925

more so. With the great majority of adults it is scarcely less the case. In another chapter the relation between custom and morality is analyzed. It is there shown that among children and savages morality is primarily a matter of custom. However, custom is only the beginning of a primitive sort of morality and must be supplemented by the socialized and rationalized conscience to become true morality.

With the adolescent, as already indicated, the mandates of the crowd are as binding as duralumin. If the crowd approves cheating in examinations cheating is of everyday occurrence in the high school and college classroom. The gang sanctions halloween pranks that include the destruction of property and the senseless soaping of windows and, of course, the individual youngster defends them as right. Ice-cream placed on the back porch awaiting the festive evening is regarded as legitimate loot by high-school and college boys simply because decreed by the gang. No self-respecting adolescent would deign to violate the code. Joy-riding in automobiles taken without the owner's consent is considered perfectly good form by the multitudes of youth and any hapless joy-rider who is caught receives the commiseration of the crowd. He regards himself as simply out of luck but does not think of himself as a law-breaker. "Toting a hip flask" and a gun and becoming "stewed" would not be indulged in by many individual youths were it not considered good form by the many.

Baldwin, our keenest analyst of imitation, called attention in a striking way to the importance of varied copy to imitate. He says:

Observers should report with special care all cases of unusually close relationship between children in youth, such as childish favoritism, "platonic friendships," "chumming," in school or

home. We have in these facts—and there is a very great variety of them—an exaggeration of the social or imitative tendency, a narrowing down of the personal suggestive sensibility to a peculiar line of well-formed influences. It has never been studied by writers either on the genesis of social emotion or on the practice of education. To be sure, teachers are alive to the pros and cons of allowing children and students to room together; but it is with a view to the possibility of immoral or unwholesome contagion. This danger is certainly real; but we, as psychological observers, and above all as teachers and leaders, of our children, must go even deeper than that. Consider, for example, the possible influence of a school chum and room-mate upon a girl in her teens, for this is only an evident case of what all isolated children are subject to. A sensitive nature, a girl whose very life is a branch of a social tree, is placed in a new environment, to engraft upon the members of her mutilated self—her very personality, for it is nothing less than that—utterly new channels of supply. The only safety possible, the only way to conserve the lessons of her past, apart from the veriest chance, and to add to the structure of her present character, lies in securing for her the greatest possible variety of social influences.

Instead of this she meets, eats, walks, talks, lies down at night, and rises in the morning, with one other person, a “copy” set before her, as immature in all likelihood as herself, or, if not so, yet a single personality, put there to wrap around her growing self the confining cords of unassimilated and foreign habit. Above all things, fathers, mothers, teachers, elders, give the children room! They need all that they can get, and their personalities will grow to fill it. Give them plenty of companions, fill their lives with variety, variety is the soul of originality and its only source of supply. The ethical life itself, the boy’s, the girl’s conscience, is born in the stress of the conflicts of suggestion, born right out of his imitative hesitations; and just this is the analogy which he must assimilate and depend upon in his own conflicts for self-control and social continence. So impressively true is this from the human point of view, that in my opinion—formed, it is true, from the very few data accessible on such points, still a positive opinion—children should never be allowed, after infancy, to room regularly together; special friendships of a close exclusive

kind should be discouraged or broken up, except when under the immediate eye of the wise parent or guardian; and even when, allowed, these relationships should, in all cases, be used to entrain the sympathetic and moral sentiments into a wider field of social exercise.¹

Münsterberg in speaking of the moral aspect of suggestion says:

We have no mystic power by which our will simply takes hold of the other man's will, but we inhibit and suppress by influence on the imagination those abnormal impulses which resist the sound desires. If that were immoral, we should have to make up our minds that all education and training were perverted with such immoral elements. Every sound respect for authority which makes a child willing to accept the advice and maxims of his elders is just such an influence. If it were really a moral demand that the will be left to its own resources and that no outside influence come to strengthen its power or remove its hindrances or smooth its path, then we ought to let the children grow up as nature created them and not to try to suppress from without by discipline and training, by love and encouragement, the willful impulses and the ugly habits. Even every good model for imitation is such a suggestive influence from without and every solemn appeal to loyalty and friendship, to patriotism and religion, increases the degree of suggestibility. That is the glory of life that the suggestive power may belong to moral values instead of mere pleasures, but it is not the aim of life to remain untouched by suggestion. And he who by suggestion helps the weak mind to overcome obstacles which the strong mind can overthrow from its inborn resources, works for the good of the individual and of the community in the spirit of truest morality.²

SELECTED REFERENCES

BALDWIN, J. MARK. *Mental Development in the Child and the Race*, Chaps. X, XI, XII. The Macmillan Company, 1903

¹ Baldwin, J. Mark. *Mental Development*, p. 358

² Münsterberg, *Psychotherapy*, p. 378

- BOLTON, FREDERICK E. *Everyday Psychology for Teachers*, Chap. XIII. Charles Scribner's Sons, 1923
- BOLTON, FREDERICK E. *Principles of Education*, Chap. XVI. Charles Scribner's Sons, 1910
- JAMES, WILLIAM. *The Principles of Psychology*, Chap. V (The classic chapter on habit). Henry Holt and Company, 1890
- KIRKPATRICK, EDWIN A. *Fundamentals of Child Study*, Chap. X. The Macmillan Company, Fourth Edition, Revised, 1929
- MCDUGALL, WILLIAM. *Outline of Psychology*, pp. 173-176. Charles Scribner's Sons, 1923
- OGDEN, R. M. *Psychology and Education*, Chap. VII. Harcourt Brace and Company, 1926
- O'SHEA, M. V. *Mental Development and Education*, Chap. III. The Macmillan Company, 1921
- NORSWORTHY, NAOMI and WHITLEY, MARY T. *The Psychology of Childhood*, See index. The Macmillan Company, 1918
- TANNER, AMY E. *The Child: His Thinking, Feeling and Doing*. Rand McNally, 1904

CHAPTER IX

ADOLESCENT IMAGINATION

1. MEANING OF IMAGINATION

To dream dreams, to behold visions, to transcend reality and enter the realm of make-believe is the popular notion of imagination. Flights of fancy, beautiful air-castles, bizarre, fictitious experiences, impossible happenings are all suggested by the term. Sometimes unrealized but hoped-for achievements are visioned, as when Columbus in his mind's eye beheld a new continent, Galileo gave new and improved shape to the earth, Jules Verne wished and half believed that the earth could be circumnavigated in eighty days. Langley and the Wright brothers wished, hoped, and believed that men could soar like birds; Zeppelin and Eckener foresaw and believed what most men scouted; Lindbergh beheld himself master of his plane successfully battling wind and fog and storm, spanning the broad Atlantic long before he negotiated it in reality. All these are examples of imaginative dreams—generally adolescent—that fortunately have come true. They are illustrations of *constructive* imagination.

Another type upon which all these are based is *reproductive* imagination. By this is meant that actual sense perceptions—sight, sounds, tastes, smells, and tactile experiences—are actually revived as copies of reality. As adolescence is in a sense the birthday of constructive imagination it is important to know that only as based upon actual experiences, and the exact recall of those experiences can the reproductive imagination ever have any real value.

Galileo, Columbus, Lindbergh, Zeppelin, Eckener, did not just accidentally build up some new creation. Through long years of exacting observation they had been studying and pondering the basic facts and elements in their several problems. New ends to be achieved, and new conditions, new obstacles to be overcome were foreseen. Then they used in reproductive imagination the actual achievements of the past and present, arranged in hitherto unknown combinations to accomplish the new ends. Epoch-making inventions, discoveries, and achievements were the outcome. The discoverer, the inventor, the organizer does not just happen to accomplish things. The accomplishments are the result of long imaginative brooding. Those who have the privilege of guiding adolescents should understand this. Long, patient study of reality is the price that must be paid by the artist, the designer, the musical composer, the fiction writer, the inventor, the machinist, the discoverer—all who advance knowledge beyond the present bounds. One who longs to be a fiction writer should be advised to spend ten years in gaining first-hand experiences, six months in the mechanics of writing, and the rest of life in reporting exactly his observations as the essence of his creative images.

Relation of imagination to first-hand experience. Much emphasis has been placed in several previous chapters on recognizing that preadolescence and early adolescence are gathering periods rather than scientific or organizing periods. With adolescence comes greater rationality, greater interest in laws, principles, scientific arrangement. These are essential in creative imagination. If experiences have been wide and varied, if perceptions have been accurate and vivid, adolescence is the time for selection of the types of imagery and the lines in which they may be usefully employed. Often a life work depends entirely upon imagination. This

is true of the painter, the sculptor, the musician, the designer, the cartoonist, the machinist, the engineer, the inventor, the tailor, the dressmaker, the milliner, the architect, the landscape artist, to some extent, the druggist, the chef, and scores of others.

Not only the great artist who paints a picture, but the housewife who sets the dinner table artistically, seats the guests tactfully, arranges her house attractively, dresses becomingly, must employ constructive imagination. The advertiser who compels our attention, the window dresser in the great department store, even the grocer who arranges his standardized tins and the cauliflower on his shelves must use their imagination to succeed. First-hand imagination and observation and personal experience are fundamental to success.

2. IMAGINATION AT DIFFERENT LEVELS

Differences between the imagination of children and of adolescents. Among the most important facts to know in directing the imagination are its different qualities at different stages of development. It has usually been stated that the child's imagination is better than the adult's. A child's imagination is very largely of the reproductive type. The child perceives the world of objects about him and retains very vivid pictures of what he experiences. His imagery is not accurate, however, as can be discerned by the way that experiences are distorted in their reproduction. Because the child's imagination is of the reproductive type and to only a limited extent creative, it is important to furnish activities which will utilize the reproductive phase. Too often, we try to get the child to do things demanding a high type of constructive imagery. Much of the composition work which we ask of the child, demands the employment of the

creative imagination. Their composition work requiring imagination should be largely of the nature of giving descriptions, oral and written, of the things which they have experienced. When we demand that they create new situations we expect something which they cannot do successfully. Their creations are either grotesquely incoherent or they are vapid and senseless. The important thing in childhood is to have the children gain a wealth of perceptions which they can rearrange when the age of creative imagination arrives, if ever. With some it will never reach a high state of development.

Adolescence and creative imagination. Before adolescence, children make little attempt to create new imaginative products. A study of their drawings reveals only rather slavish reproductions of drawings from which they have copied or of objects which they have observed. They try to picture things as they are and do not idealize to any great extent. Their compositions are either copies of memorized stories, descriptions of objects seen, or narrations of events witnessed. Their plays and games are rather slavish copies of the activities of older persons. Modifications are only slight and in no real sense creative.

All the foregoing are exceedingly valuable as a foundation for later creative art. With the maturity of adolescence comes wider experience and observation, thoughtful analysis, and a desire for independence. New ideals are glimpsed, and in their strivings to understand and realize them, the adolescent uses the various means of expression, language, painting, music, drawing, and manual arts, to build up new designs.

Thus there emerge new poetic effusions, crude excursions into fiction writing, amateur paintings, attempts at invention, half-baked theories of business, novel social and

political organization, and the like. Many of these adolescent productions are but the rather yeasty effervescence of unschooled and unskilled minds, and come to naught. However, all should be encouraged to invent something new if it is only a slang phrase, some new dance steps, a novel way of arranging the household furniture, or a suggestion concerning some impossible new enterprise. While out of all the attempts there will be many failures, some successes will be discovered that will set the world ahead. Adolescence is the time when all the encouragement and stimulations possible should be given. Teachers should be on the alert to discover budding genius of diverse kinds and types, and should devise ways and means of cultivating whatever native gift they may discover. We must remember, too, that while poets and mathematicians are born and not made, they need to be discovered and encouraged to develop the innate capacities with which they are endowed. Their abilities should be discovered as they flare out, and kept aflame. Without encouragement real genius sometimes flickers out early and is lost to humanity.

A few examples will be cited to show that many of the great creative geniuses became illustrious in early life or did the constructive thinking which they reserved for later expression.

Dickens early began to write. *Pickwick Papers* was produced at 25. The works which have immortalized his name were all written before 40. Ruskin had completed the first part of his greatest work, *Modern Painters*, at 28. Shakespeare had produced some of his immortal plays before 36. Bunyan had depicted man's cycles of hopes, sorrows, and despair before 35. Byron and Burns died at 36, Keats and Marlowe at 39, Shelley at 30. Coleridge wrote his *Ancient Mariner* at 25, Goethe and Victor Hugo had produced works of lasting value at 20. . . Edison was a young inventor. In fact, all inventors are young. Eli Whitney

was well known at 27, Colt at 21, Fulton at 28, Dreyse at 42, Graefe at 25. . . . Among artists and sculptors three out of four have shown decided promise before reaching their majority. Rembrandt was famous at 24. Among musicians we may cite Mozart, Beethoven, Mendelssohn, Schubert, and Schumann as real producers before 20; in fact, each produced something original by 13.¹

3. CULTIVATION AND USES OF IMAGINATION

Too often the elementary school period is meager in its supply of sense perceptions and consequently during the period of adolescence when the constructive imagination should be remoulding and refashioning the elemental images into new and more important structures, the time must be spent in securing the foundation elements. The direction in which the constructive imagination may be utilized are numerous indeed. A few of these ways will be suggested. Our minds at once turn to literary composition and various forms of art as illustrated in painting and the plastic art. Just how this shall be done, however, is often very nebulous in the minds of even teachers of literature and art. Descriptive geometry is a subject which taxes the ingenuity of all engineering students. Its successful pursuit depends primarily upon ability to visualize accurately, not alone these features that are suggested but new combinations. Mechanical drawing is an excellent subject for employing visual imagery. To draw the various views of a scene requires clear visual imagery. When this is applied as in machine design, a higher order of visual imagery is required. In connection with the geometry work there is much opportunity for utilizing the constructive imagination. To a certain extent this is true in plane geometry, and it is true to a very much greater degree in solid geometry. The imagin-

¹ Bolton, *Principles of Education*, p. 703

ative phase must be clearly distinguished from abstract reasoning. In plane geometry a pupil may succeed fairly well and be almost lacking in visual imagery, but in most problems of solid geometry, success depends upon imagery. In addition to understanding the demonstrations that are written out, there are the independent problems. Pupils should be encouraged to solve them in as many different ways as possible. It is a good plan to encourage variations in those that are written out also. Constant applications of all that are studied should be encouraged.

The designing of book and magazine covers is an art that is endless in opportunities for creativeness. The illustrator has only just begun to make himself useful. The cartoonist of merit possesses visual imagination of a remarkable type coupled with keen insight into the significant things in current events.

There is abundant opportunity in the designing of textile fabrics. With the craze for rapidly changing fashions new styles of weaves and color patterns are in constant demand. There are few high-class designers in the manufacturing establishments and there is always opportunity to be promoted for workmen who rise above the daily routine.

Wall paper designing is an art that pays high compensation and competent designers are scarce. In carpet making it is said that our native American makes do not compare in color and design or in weaves with Oriental productions. Here is a field for utilizing talent in visual imagination.

The designing of furniture demands new ideas. Though new types, like mission furniture, 16th century, and Flemish patterns, rise and flourish for a time, it can hardly be said that much individuality is shown in furniture making. There is altogether too much of the stereotyped machine-made product about present-day furniture. Interior decora-

tions are almost lacking in private dwellings and the decoration of public buildings in America, if at all satisfactory, has been done by foreign labor. The design of machines and fixtures has been done with very little regard to the æsthetic effects. There is a wonderful opportunity for the engineer who will combine artistic appreciation with mechanical efficiency. Happily attention is being given to this. That the imagination has not dwelt upon æsthetic effects in the method of plastering streets with hideous signboards is perfectly evident. Until recently almost no attempt has been made in this country to beautify roadsides, vacant lots, or railway station grounds. Even in cities where some pretense is made to maintain beautiful public buildings and parks, other public places are left to outrage the æsthetic sense. Fortunately some of the railroad companies are realizing the material advantage of making every way-station a beauty spot.

Landscape gardening should be taught not only to the few who would make a livelihood by designing public parks but to all in order that they may strive to keep beautiful lawns and private premises and also assist in beautifying public property.

The study of music employs reproductive imagination, which includes the visual, auditory, muscular, tactile, and kinæsthetic types. There is no other educational activity which can utilize the auditory imagination in the same degree. In our American education this branch has been altogether too much subordinated. Music is a language of the emotions and through it the child should be encouraged to lift up his heart in gladness. Naturally he spontaneously bursts forth into musical expression. This tendency should be encouraged and cultivated in childhood if it is not to remain dormant forever. Opportunity should be given for

singing the songs that reflect the child's natural feelings, and singing great songs should be a means of awakening and developing the various unfolding emotions at the time of the appearance of the nascent period.

If the mind has been properly nourished with perceptive material and literature has been used which necessitated the imaginative reproduction of the perceptive materials, the youth is then ready to employ the productive imagination in a highly satisfactory degree. Adolescence is the natural period for the awakening of many emotions such as friendship, love, patriotism, religion. Through these emotions the imagination constructs pictures of conditions which gratify and develop the individual. This becomes romance and the individual who expresses these imaginative conditions becomes a romancer. The writer of fiction is one who interprets and portrays romance. The real writer of fiction must live through romance in order to express it. During this nascent period of romance and expression, the youth should be encouraged to produce literature.

In teaching students to write, the same mistakes are frequently made as in interpreting literature. They are asked to write imaginative stories when they have no foundation in experience. Instead of writing trash with no significance they should go out into the world to gain first-hand personal experiences. Pupils write perfunctorily because they *must say something* rather than because they *have something to say*. "Out of the fulness of the heart the mouth speaketh." No writer of descriptive composition has ever depicted anything that could live unless he gave it out of the fulness of experience. The college student should never be deluded into thinking that he can become a great writer merely by studying rhetoric. The fundamental prerequisite of all worthy composition is a rich fund of personal experiences. Travel, observation, study of objects and problems in the concrete are the only effectual bases for authorship. Mark Twain's most famous production could never have been sketched by one

who had not spent his days and nights as a Mississippi River pilot. Charles Reade's *Cloister and the Hearth* or Hugo's *Les Misérables* were possible only to men who had studied every inch of the territory and mastered the entire life and spirit of the times and places portrayed. If some of our fledgling writers of fiction, dealing with social problems, would go into the slums, mix with the working man and the capitalist, become citizens and meet the politicians, become tramps, wage-earners, in order to gain real experiences of that about which they want to write, they would arrive at much less bizarre and visionary conclusions. If some of the callow youths who are producing the deluge of "short stories," dealing with love, would wait until they had had an opportunity to speak from personal experience, we should be spared the plague of frothy, driveling sentimentalism, which cannot fail to instil the most perverted notions regarding life's most sacred drama and the establishment of the fundamental unit of society—the home.¹

The best imaginative creations in any form of art are the most realistic, not the most fantastic. All art singles out great significant features and brings them into relief to make the ideal apparent. The artistic ability is revealed not in creating bizarre and unreal wholes but in emphasizing the great dominant traits in any concept. Once this interpretation is understood, the procedure in stimulating, developing, and wisely utilizing the imagination is easily seen. Really constructive imagination depends upon reproductive imagination which in turn is limited by previous actual experience.

Long ago Comenius emphasized a doctrine new to the scholastic world, viz., "Nihil est in intellectu quod non prius fuerit in sensu," which liberally translated means that all knowledge begins with sense perception. This common sense idea is so evident that we marvel at the stupidity of trying to give accurate perceptions, memory, and images through the medium of words alone. It is well known that

¹ Op. cit., p. 515

those born blind are deprived of a great realm of accurate ideas and that they never dream in terms of vision. Suppose the same individual to be deprived of the sense of hearing, deaden the sense of touch, prevent the sense of smell, taste and all the others from functioning and you have a mindless idiot.

Each sense supplies the mind with information of its own peculiar sort. The eye is fitted to respond to waves of light, the ear to waves of sound, and no other part of the body can act as a substitute. The eye is dead to waves of sound, the ear to light, and the sense of touch does not respond to odors. One who is deprived of a single sense, or who is defective in that sense, is caused to limp mentally just as surely as one must limp when a leg is amputated. Helen Keller has never known color as those of us who see it know it. She knows nothing of the melodies in nature as we who hear know of them.¹

She herself says she talks of colors as if she knew them but that what she says consists only of words—the real ideas and images are entirely lacking.

All development of the imagination must be based upon sensory experiences. The problem of imaginative training becomes two-fold. There must be secured (a) a rich fund of sensory experiences and (b) a revival and arrangement of those experiences. The adolescent should be afforded an opportunity to acquire information in the most natural way through contact with a rich variety of objective stimuli. Fortunately there is always an abundance of materials, regardless of the locality, and the adolescent is easily interested in the objective world. In order to have a basis for imagination there must be a rich fund of experiences gained through sense perception. This is well illustrated in geography. Pupils should have abundant opportunity to observe much geographical data at first hand.

¹ Op. cit., p. 439

Wherever practicable, things should be seen in their natural habitat; plants in the fields, rocks in the ledges, trees in the forest, and shipping in the harbor. Excursions should include factories, foundries, flouring mills, paper mills, tanneries, printing offices, brick yards, stone quarries, water works, gas works, electric lighting plants, railroad depots, commission houses, museums, art galleries, law courts, legislative halls, caucuses, the particular ones visited depending upon the locality. . . .

The school museum should also be an important factor in every school. In it should be found specimens of forest, factory, and trade from home surroundings, and as much as means will allow from other countries. . . . Collections of pictures should form a part of the equipment of every geographical classroom.¹

These can be obtained in great abundance by a simple invitation to the children to bring them to schools. Thousands of beautiful pictures go to waste in every community which could be salvaged and made of inestimable value. Ingenious ways of cutting and arranging would be displayed by pupils anxious to make their contribution.

Mere mention is sufficient to suggest the remarkable values of the stereoptican and the moving pictures. Commercially they are so common that the only wonder is that every school building in the land is not supplied with the most up-to-date output of the educational film producers.

In this age of marvelous scientific achievement there are innumerable ways for employing the constructive imagination. Every boy dreams of harnessing some of the great forces—electricity, steam, gasoline, the tides, the sun's heat—and of driving new and not yet designed machines to move mountains, annihilating space or solving some great world mystery. It is well that he should thus dream and plan. Without dreams and visions men would still be plodding at a snail's pace through the forests with back-breaking loads, accomplishing little for the world. But boys

¹ Op. cit., pp. 495-496

should realize that all great products of the constructive imagination have been absolutely dependent upon careful observation of details that have simply been revised to accomplish some accurately thought-out plan of work to be performed. Mere incoherent day dreaming never produced a single worth-while unit of work for the world.

It needs to be clearly understood that the re-picturing of things exactly as they are is the essence of imagination. To look upon a plant and then when it is no longer present, to recall its details of root, stem, branches, leaves, color, or shape, is to imagine. To observe a hydrostatic press and later recall the relations of the lever, piston, valves, bolts, and standards, is to exercise imagination. The student who looks through the microscope and sees unicellular beings, then turns away and draws them exactly, is exercising imagination of the most accurate kind. To view the proper geometric figure in connection with the Pythagorean theorem and then, without having the book or paper present, to see the figure and all its relations with the mind's eye, is to exercise imaginative processes no less than to write a book of fiction. In fact the former is the more fundamental and the latter is apt to be incoherent, hazy, and inexact unless a foundation has been laid through imagination of the former, exact, reproductive type. Imagination is employed in acquiring and recalling the concrete details of science no less than in building up notions of relations and theories which have not been tested by observation of material things. Reproductive imagination is employed in the former case, productive or constructive in the latter. The former is prerequisite to the latter, a fact which is so often overlooked. If this exact reproduction of definite notions of material things, gained through the senses of sight, sound, touch, smell, and weight, is insisted upon, the combinative imagination will almost take care of itself. At any rate, there is no place for the latter without definite images to combine. Thus the scientist with his exact consideration of material things has as much—I am inclined to think much more—to do with the development of powerful creative imaginations as the poet, the painter, or the sculptor.¹

¹ Bolton. *Op. cit.*, p. 500

President Eliot said:

The imagination is the greatest of human powers, no matter in what field it works—in art or literature, in mechanical invention, in science, government, commerce or religion; and the training of the imagination is, therefore, far the most important part of education. . . . Constructive imagination is the great power of the poet, as well as of the artist, and the nineteenth century has convinced us that it is also the greater power of the man of science, the investigator, and the natural philosopher. . . . The educated world needs to recognize the new varieties of constructive imagination. . . . Zola, in *La bête humaine*, contrives that ten persons, all connected with the railroad from Paris to Havre, shall be either murderers or murdered, or both, within eighteen months; and he adds two railroad slaughters criminally procured. The conditions of time and place are ingeniously imagined, and no detail is omitted which can heighten the effect of this homicidal fiction. Contrast this kind of constructive imagination with the kind which conceived the great wells sunk in the solid rock below Niagara that contain the turbines, that drive the dynamos, that generate the electric force that turns thousands of wheels and lights thousands of lamps over hundreds of square miles of adjoining territory; or with the kind which conceives the sending of human thoughts across three thousand miles of stormy sea instantaneously on nothing more substantial than ethereal waves. . . . There is going to be room in the hearts of the twentieth-century men for a high admiration of these kinds of imagination, as well as for that of the poet, artist or dramatist. . . . It is one lesson of the nineteenth century, then, that in every field of human knowledge the constructive imagination finds play—in literature, in history, in theology, in anthropology, and in the whole field of physical and biological research. That great century has taught us that, on the whole, the scientific imagination is quite as productive for human service as the literary or poetic imagination. The imagination of Darwin or Pasteur, for example, is as high and productive a form of imagination as that of Dante, or Goethe, or even Shakespeare, if we regard the human uses which result from the exercise of imaginative powers, and mean by human

uses not merely meat and drink, clothes and shelter, but also the satisfaction of mental and spiritual needs.¹

There is a splendid opportunity to correlate the instinct for constructive imagination with the instinct for utility which are both so dominant at the period of adolescence. To find lines of activity in the school that will make the youth feel that what he does in the school is training for greater efficiency in life is one of the difficult problems of school organization. Here are abundant opportunities not previously grasped. All constructive work in the line of manufacture depends upon the productive imagination. When a printing press was invented which would print and fold papers in the same process, it took productive imagination to picture it before it was designed or constructed. The linotype necessitated an image, combining the typewriter and various forms of printing machinery. When they were put together the new machine was the result. A self-binding reaping machine represents a series of previous inventions in reaping machinery. The steps between the farmer's sickle, cradle and rake, and the self-binder are not very numerous, but the ingenuity of man was severely taxed to image the several necessary combinations. At the present time fame and fortune await the inventive genius who will produce a machine which will transmute the vibrations from the human voice into the printed page. The two parts of the machine are ready at hand—the graphophone and the typewriter. Who will yoke these together? Opportunity beyond our wildest dreams await the constructive imagination of those who will improve the automobile, the aeroplane, the radio, and the movie.

¹ Eliot, Charles W. *Proceedings of the National Education Association*, 1903, p. 51

4. "THE YOUNG MAN SHALL DREAM DREAMS"

Not only should imagination of the scientific type have a place in education but also imagination in the more popular meaning should have its place. Idealistic imagination of the type in which visions of the future, visions of personal achievements, and visions of world problems and humanitarian services should loom large in the unfolding and upbuilding of adolescence. This is the time of dreaming dreams, of building air castles, and doubtless few ever achieved much of importance who did not early see visions which became beacon lights in their whole career. The dreamy, apparently impractical youth, always thinking of what ought to be, should be encouraged to build pictures of the future, impractical and illusory as they may seem.

The great achievements of science and invention would never have been discovered had it not been for youth with vision. Columbus discovered a new world even though the very children in the streets pointed their fingers to their foreheads and shouted "lunatic, lunatic!" Morse foresaw the electric telegraph, Alexander Graham Bell the telephone, Madame Curie radium, the Wright Brothers the aeroplane, Marconi wireless telegraphy, and Edison a new light for all the world.

Mary Lyon glimpsed a new world in which women were to have an equal opportunity with men for the benefit of higher education. Before twenty she had pushed aside the the ordinary allurements of pleasure, so dear to ordinary youth, and had begun to fit herself for the new task so needed for the complete democratization of the new America. Tradition, blind prejudice, beset her path at every turn but the vision that she had beheld beckoned her on

and, before her early demise at fifty, she had accomplished the establishment of a women's college on a par with those for men. A new era was proclaimed in the emancipation of women.

Abraham Lincoln, born amidst the most abject poverty, through the counsels of his mother, Nancy Hanks Lincoln, his reading of Weems' Life of Washington, Plutarch's Lives, the Life of Benjamin Franklin, and his early study of the Bible, caught a vision of a life of service to the down trodden. This ideal, often dim and vague in outline, beckoned him like a guiding star through his life. From the early days in the rude cabin at Gentryville, through the time as a country store keeper where he became known as Honest Abe, through his struggles as a village lawyer in which he would never take a case if he knew the client to be guilty, through his rise as a legislator and Congressman, through his espousal of the cause of slavery, through the harrowing experience as a war President, that vision guided him in his unexampled career of sacrifice and love for humanity. He translated that vision of service for all mankind in the words of the immortal Gettysburg speech, and especially in those lines in which he said: "It is for us, the living, rather, to be dedicated here to the unfinished work which they who fought here have thus far so nobly advanced. It is rather for us to be here dedicated to the great task remaining before us; that from these honored dead we take increased devotion to that cause for which they gave the last full measure of devotion; that we here highly resolve that these dead shall not have died in vain; that this nation, under God, shall have a new birth of freedom; and that government of the people, by the people, and for the people, shall not perish from the earth."¹

¹ From facsimile copy in Nicolay and Hay, *Abraham Lincoln*, p. 201, The Century Company, 1890

In the education of the youth is it not our privilege and duty to not only impart traditional, stereotyped knowledge to the many, but to discern the dreamers who are gazing into the future with wistful eyes, glimpsing some of the great world problems apparently so baffling and hopeless of solution? Some of them, if helped, may turn out to be a Moses to lead a benighted people out of a wilderness, some may light a new lamp to give illumination to all the world, some may invent a new device to lift the burden from the bent backs of human creatures, some may lead us to new developments in government that may insure life, liberty, and the peaceful pursuit of happiness to all, some even may find new ways of composing the world hatreds and may bring about peace and good will instead of strife and warfare. While imagination has brought about untold marvels of invention, making possible undreamed of physical comforts, government and the relations among men as individuals and as nations are still in the paleozoic age. Men must become imbued with ideals of universal good-will instead of brute selfishness. Let the youth of the present glimpse this as a vision of the future and its reality will become assured.

SELECTED REFERENCES

- BOLTON, FREDERICK E. *Principles of Education*, Chapters XVII, XVIII, XIX. Charles Scribner's Sons, 1910
- BOLTON, FREDERICK E. *Everyday Psychology for Teachers*, Chapter XIV. Charles Scribner's Sons, 1923
- CAMERON, E. H. *Psychology and the School*, Chapter VI. The Century Company, 1921
- COLVIN, STEPHEN S. *The Learning Process*, Chapters VII, VIII. The Macmillan Company, 1911
- GAULT, ROBERT H. and HOWARD, DELTON T. *Outline of General Psychology*, Chapter IX. Longmans Green and Company, 1925

- KIRKPATRICK, EDWIN A. *Fundamentals of Child Study*, Chapter XVI. The Macmillan Company, Fourth Edition, Revised, 1929
- NORSWORTHY, NAOMI and WHITLEY, MARY T. *The Psychology of Childhood*. The Macmillan Company, 1918
- SEASHORE, CARL E. *Introduction to Psychology*, Chapter X. The Macmillan Company, 1923
- TITCHENER, EDWARD B. *A Primer of Psychology*, Chapter X. The Macmillan Company, 1899
- WOODWORTH, ROBERT S. *Psychology: A Study of Mental Life*, Chapters XV, XIX. Henry Holt and Company, 1921

CHAPTER X

ADOLESCENT ATTITUDES AND EMOTIONS

1. IMPORTANCE OF EMOTIONAL EDUCATION

Significance of what a boy loves. On graduation from the high school what a boy loves is vastly more important than what he knows. What companions does he choose? what books does he voluntarily read? what ideals does he harbor? These are the really significant characteristics which will determine his life's career. Does he chum with wholesome pals, does he read choice literature, does he enjoy good lectures, does he participate in harmless recreation, does he take an interest in civic welfare? Or, does he seek vile companions who tell smutty stories and enter into questionable escapades, does he read trashy and indecent magazines and books, does he sneer at the church, the school, good books, and all serious activities?

His attitude toward society and its problems, his attitude toward religion and morals, his attitude toward duties and obligations, are vastly more important than the few items of intellectual knowledge he has gained. His spontaneous likes and dislikes, his loves and hates, his longings and aversions, will really determine what manner of man he shall be.

The pupil's attitude toward his work is exceedingly important. With a rebellious attitude toward them his tasks become drudgery, in the end are only half performed, and the results are morally negative. Some teachers are

great living forces who succeed in inspiring their pupils to accomplish the highest results, while others manage only in securing nominal success entirely through compulsion. Real education is lighting a torch instead of merely filling a basket. Consequently, in all education understanding the right education of the feelings and emotions is fundamental. Pestalozzi said: "Secure the love of the child and his intellectual education is an easy matter."

Education over-intellectual. The assertion that education is over-intellectual must not be construed to mean that students know too much or that they are super-scholastic. There is a very legitimate plaint coming from all quarters that students are superficial, inaccurate, and ignorant of vast stores of knowledge of which they should be in possession. The implication suggested in the heading is that in evaluating educational objectives the worth attached to mere information, to purely intellectual acquisitions, is entirely too preponderant.

From the kindergarten through the university we award grades and determine promotions solely upon a display of intellectual wares. The pupil is promoted in reading when he has mastered certain techniques and skills; when he has amassed certain examinable facts regarding dates, plots, diction, historical relations, or literary appraisal. We give them, for example, the story of Damon and Pythias, and then test on the date of the author's birth and death, inquire whether the plot was original, how many figures of speech were used, what was the style of diction, what principles of rhetoric were violated, what is the etymology of the words Damon and Pythias, and so on *ad nauseam*. We are apt to be entirely callous as to whether the pupils were in the least stirred by the undying love and loyalty exemplified by those classic heroes. In mathematics, suc-

cess is judged by the recall of certain mechanical processes, the exhibition of speed or accuracy in manipulation, or the application of these to new situations requiring comprehension and judgment in selecting and integrating.

In the sciences, certain substances must be identified, recorded, and remembered, their relations discerned, and all these must be recalled as facts on examination day. In history, literature, and civics, likewise, to a large extent, the values for the pupil are decided by the extent of factual knowledge, the erudition, that the pupil can display. All this is accentuated by the new thought—"no thought"—examinations which merely ask the pupil to check a monosyllabic answer "yes" or "no."

These marks of evaluation for purely intellectual accumulations are added and averaged and grouped into levels, and graduation is adjudged thereby. Never do we try to array the emotional reactions, the thrills experienced, the zeals awakened, or the interests established. Growth in love, honor, chivalry, courage, sympathy, friendship, loyalty, go for nothing in counting the coupons toward a graduation sheepskin. It will be the purpose of this chapter to show that in considering educational values, especially during the adolescent period, all these fine emotional inspirations and ideals should count for far more in judging the growth, development, and worth of the individual than mere erudition.

Instinctive basis of interests. While interests may be stimulated and cultivated they are primarily a function of native tendencies.

Of course, interest in a particular object or activity is not determined by instinct; but the type of interest is marked out in broad lines by instinct and heredity. The hound is interested in the chase, the lion in stalking its prey, and the cat in creeping

stealthily upon its victim. The boy is naturally interested in warlike, savage plays, the girl in dandling her dolls, the mother in sacrifice for her infant child. The child's dominant interests are selfish. With the approach of manhood, sex-interests, home-making, and religious and moral interests, make their appearance.¹

Thorndike wrote:

Some of the most beneficent qualities of human nature are given by nature in the instincts of sympathy, affection, courage, joy and maternal love. Social life is largely based on these. They are too precious to be lost by disuse or by careless education. Although life outside the school must always be chiefly responsible for the cultivation of these virtues, the school should make the most of what opportunities it does have. If the life of the classroom is destitute of sympathy, happiness, courage, and love, it is offering a pitifully incomplete education. Good teaching will provide exercise for these instinctive emotions as well as for the native intellectual capacities. . . . Interests may be native or acquired. Many human instincts are unlearned tendencies not to do something, but to take attitudes of interest or aversion. There are, that is, instinctive interests or instincts of interest. Many human habits are habits not of out and out thought or action, but of attitude, of interest and aversion. In general, then, the educational principles based on the psychology of instincts and habits are applicable to interests as well.²

2. THE EMOTIONAL LIFE OF CHILDHOOD

In no other phases of mental life do we find greater contrasts between childhood and adolescence than in the emotional life. As Hall has emphasized so well, the life of feeling is doubtless much more basic and fundamental than the intellect. The feelings are, therefore, a much truer index to the real life of individuals than is the intellect. Because of this, it is of importance to discover the significant characteristics at different periods.

¹ Bolton, *Op. cit.*, p. 675

² Thorndike, *Principles of Teaching*, p. 198, 52.

The child's affective life is largely of the type of sense-feelings. The little child's feelings are largely connected with physical states. The body is affected by myriads of stimuli which give rise to pleasure or pain. The reactions of the child are almost wholly determined by these pleasure-pain states. What is found to be uncomfortable is shunned if the source can be located and a means of escape discovered. Likewise, the special senses are stimulated by various forces and a knowledge of the outside world is gained. The child's feelings are very poorly controlled. Being altogether egoistic, only the experiences which give personal satisfaction are tolerated. Anything which hinders personal satisfaction is avoided if possible. Consequently we find the child yielding to his sensuous feelings and going to excesses in his pleasures, as in eating sweets, giving way to his passions, or going into tantrums if his pleasures are thwarted.

The child is anti-social. This may seem incorrect at first sight, but on careful consideration its truth will be apparent. To be sure the child is sociable or gregarious. He does not like to be alone but constantly strives to be with a crowd. But this does not signify that he is altruistic or really social. One who is social in the best sense is solicitous for the welfare of others, is ready to contribute to the welfare of the group, and takes pleasure in so doing. Now, does the child manifest satisfaction in the welfare of others or sorrow in the troubles of the gang? Careful analysis of the child's acts and emotions will soon reveal that satisfaction is derived from a knowledge of group welfare only as such welfare affects him personally. Why does the child give candy to playmates? Largely because he has learned that playmates may reciprocate. Why is the child "good just before Christmas"? Largely in the expecta-

tion of securing future advantages. Are not the child's affectionate attitudes in general mainly prompted by expectant future advantages? These, to be sure, are not as a rule consciously formulated, but they are nevertheless real motivating, apperceptive attitudes.

3. ADOLESCENT CHARACTERISTICS

Changing interests at adolescence. There is a very definite change of interests with the advent of adolescence. This fact is accounted for because of (a) fundamental changes in physical and mental development, (b) the broadened vision through enlarging intellectual experience, (c) new environmental influences. No discussion is necessary to convince us that profound physical changes are taking place during adolescence. In an earlier chapter some of the typical changes were noted. Among them those connected with sex development are most significant for mental life, both intellectual and emotional, but especially the latter. That the changes are not due merely to new environmental conditions is well illustrated in a quotation from Lewis. He wrote:

When the girl comes to the high school, she is a tall, lank, awkward, rompish, bashful, self-conscious, freakish, lovable youngster, the idol of her father's heart. When she leaves the high school after four years, she is a neat, trim, graceful self-possessed, responsive, sweet girl-graduate, soon to be the idol of somebody else's heart. This transfiguration, however, was not the work of the high school; it must be credited to nature.¹

The interests of adolescents are numerous, intensive, and changeable, though more constant than in childhood. The interests of boys and girls differ greatly from each other.

¹ *Democracy's High School*, p. 52

There are fundamental native differences which are intensified by custom. Girls of twelve are emerging into the romance of adolescence. Many are beginning to have "boys on the brain." Boys of twelve have little interest in girls. They are generally all absorbed in sports, games, and the "big injun" type of dramatic acting. They delight in dressing up as savages, hunters, and warriors. They flourish knives, pistols, and other weapons. Girls never do this. It takes no teaching to cause boys to be rough and boisterous in their sports. Girls seldom display such tendencies. Boys are greatly interested in machinery and are easily led to investigate in physics and chemistry if the investigation is not over-technical. Boys are far more absorbed in baseball, football, and other vigorous physical sports than they are in algebra or foreign languages. Boys of twelve are careless of their appearance. Unkempt hair, unwashed hands, untidy or torn clothing, and muddy shoes with strings dangling worry them not in the least. Girls at this age must have their vanity cases and keep them in use, they discuss clothes and turn to numberless feminine foibles.

Among the psychological characteristics of the adolescent, none is so prominent as the emotions. The attitudes of adolescents toward individuals and toward everything they do determine their whole development. Their chief sanction for all conduct is their like or dislike.

The age of adolescence is a cross-section of life characterized by idealism and distinctly marked by hero worship, love of authority, and desire for freedom. Recognizing these facts, the junior high school is obligated to afford each child an opportunity that though "one can not always be a hero one can always be a man," that "the poise which makes possible successful leadership, is attained only by him who daily ruleth his spirit," and that "the essence of true liberty is to do what one should, not what one

pleases." Aiding the child to arrive at such conclusions may therefore be said to be the function of guidance.¹

Abundant opportunity and encouragement should be afforded to enable adolescents to express their emotions. Naturally they are full of tingling emotions, a general euphoria vague and indefinite. As in the healthy child, it is largely animal exuberance. This furnishes the basis for the development of a variety of important more specific emotions, like joy, happiness, bravery, patriotism, courage, religious fervor, and the like.

4. EMOTIONS AND EDUCATION

Youth's genuine interest in school. There is a popular notion, kept alive by cub reporters, that school children hate school. Every September when the schools are to reopen, the libel reappears. Sometimes there is a cartoon, sometimes an editorial depicting the unwilling pupils being dragged back to school and leaving all joys behind them. Newspapers are just awakening to the libelous insinuations against the schools. An occasional newspaper has come to the rescue. A recent editorial in the *Boston Transcript* is typical of the new note. It appeared under the striking caption "Hate it? They love it." Excerpts from the editorial are here reproduced:

If ever a tradition needed debunking, it is the notion that children 'hate to go back to school.' Year after year, as the city schools open, newspapers continue to describe the event in the old-fashioned manner, wholly ignoring the facts as they now exist. Bright-minded reporters, who usually think it unpardonable to write even one sentence in a mid-Victorian manner, fill long articles about the school-openings with stale "atmosphere" from the nineteenth century, allowing never one breath to blow in from the twentieth. They picture thousands of children

¹ Thomas-Tindal and Myers, *Junior High School Life*, p. 12

dragged home from the highways and byways of summer leisure, forcibly washed and starched by fond but grim mothers, and then marched off to school as though to jail, against their wills, against their pleasures, against everything in them which is normal and characteristic of the nature of childhood. If this was ever a correct picture—and we doubt if it ever was, so far as concerns the first few days of the school session, which have always been flavored with excitement and with the interest of changed occupation as to make them quite attractive to all healthy children—the general impression conveyed by contemporary descriptions of the school opening is incorrect, “old hat,” completely out of touch with the times. Nearly all of the younger children to-day seem to enjoy going to school. Ask them if they “like school” and you will have an affirmative answer from nine children of ten. Even the one dissenter sometimes refuses to confess his enjoyment merely because he has come to think—probably from hearing the remarks of his elders—that it is the proper thing to say that he does not like school.¹

The great onrush to the high schools and colleges by the youth of the land is one of the greatest dramas of all history. They go of their own accord because they are interested in finding excitement, adventure, and thrills. They wish to peer into the unknown and find answers to the manifold problems surging up in their minds. Oftentimes they seem apathetic and unresponsive but doubtless largely because the problems we set them and the solutions we offer are so remote from their own experience. We must not misjudge that they have no worthy interests or enthusiasms. We are bent on making erudite scholars; they are seeking a way of life.

Watch them as they engage in football, baseball, track, the glee club, the band, the orchestra, the blackface, slapstick comedy, the class farce, the production of the school paper, the camera club, the Why club, the dance, even

¹ *School and Society*, September 29, 1928, p. 397

clubs to study etiquette and morals, the formulation of codes of ethics, and self-governing codes. They are no more bizarre in their plays than their elders, no more intemperate in their sports, and just as serious in considering the worth-while things of life. Can we not meet them on their own ground, recognize the types of interest dominant, and make those the starting point for the solution of their problems, and from those lead them on to higher ground where they may glimpse broader visions and gain a truer perspective of life's great problems?

Some of the feasible problems and methods of approach that may be advantageously considered during adolescence in the school are discussed in the chapter on character education.

Hall wrote:

Last, and perhaps most important of all for our purpose to-day, the high-school boy is in the stage of beginning to be a utilitarian. The age of pure science has not come for him, but applications though not logically first, precede in the order of growth and interest the knowledge of laws, forms, and abstractions. He would know how the trolley, how wired and wireless telegraphy work, and the steam engine, the applications of mechanics in the intricate mechanisms, almost any of even the smaller straps and buckles in the complex harnesses science has put upon natural force, charm him. Physics in the field, the street, the shop, the factory, the great triumphs of engineering skill, civil, mining mechanical, inventions in their embryo stage, processes, aerial navigation, power developed from waves, vortexes, molecules, atoms, all these things which make man's reaction to nature a wonder book, should be open to him.¹

Dewey showed convincingly by illustrations drawn from the schools of Gary, Indianapolis, and Chicago, from Mrs. Johnson's experimental school at Fairhope, Alabama, that

¹ Hall, *Adolescence*, Vol. II, p. 156

schools are attractive to pupils if the curriculum is selected to accord with their unfolding capacities and interests. Play, handwork, stories, construction, social activities suited to their growth stages are entered into with the greatest of zest. He remarks:

All these technical high schools have shown conclusively that boys and girls like to go to school and like to learn, when they can see whither their lessons are leading. Giving the young work they want to do is a more effective method of keeping them in school than are truant officers or laws.¹

The increase in the range of subjects from which to select in high school and in college is one of the greatest factors in the tremendous increase in attendance the world over.

Dewey is constantly emphasizing the sound psychology that interests are not to be furnished ready-made by the teacher. We do not need to create interests in the child. He is just spilling over with interests and it is our business to discover them in their nascent periods and set them to work. He remarks that:

The first years of learning proceed rapidly and securely before children go to school, because that learning is so closely related with the motives that are furnished by their own powers and the needs that are dictated by their own conditions. Rousseau was almost the first to see that learning is a matter of necessity; it is a part of the process of self-preservation and of growth. If we want, then, to find out how education takes place most successfully, let us go to the experiences of children where learning is a necessity, and not to the practices of the schools where it is largely an adornment, a superfluity and even an unwelcome imposition . . . Rousseau said, as well as did, many foolish things, but his insistence that education be based upon the native capacities of those to be taught and upon the need of studying children in order to discover what those native powers are, sounded the keynote of all modern efforts for educational progress. It meant

¹ *Schools of Tomorrow*, p. 276

that education is not something to be forced upon children and youth from without, but is the growth of capacities with which human beings are endowed at birth. From this conception flow the various considerations which educational reformers since his day have most emphasized.¹

Adolescent interests in reading. Children and adolescents are interested in reading and will read if we only discover the types of books adapted to the various stages of development. Terman and Lima have performed a noteworthy service in studying the reading tastes at various ages. Dr. Washburne has rendered a similar service in providing the Winnetka Graded Book List.²

Terman shows that at twelve years the reading interest approaches a climax of intensity. Both boys and girls read biography and nature stories and boys revel in adventure, popular science, and history. At thirteen the girl is entranced with romance. At fourteen specialized interests emerge. Boys become interested in sports and mechanics. These few years determine the type of literature that makes most for their weal or woe during the rest of their lives.

Chubb, a master teacher of literature to high school boys and girls, says:

The quickly budding instincts (which will unfortunately bring with them, at times, a sequence of enthusiasms, adorations, fads) must get a chance to deploy themselves and reveal their significance. We can never be sure which of them will but flash into momentary blaze, and which will burn with steady and brightening flame. Better let them kindle than smoulder; burn out rather than receive a damper from the teacher. . . . In our choice of literature we must accommodate ourselves to certain marked changes that overtake the boy and girl during the four years of High

¹ Op. cit., p. 2

² Terman, Lewis M., and Lima, Agnes. *Children's Reading*, D. Appleton and Co., 1926. Washburne, Carleton, and Vogel, Mabel. *Winnetka Graded Book List*, American Library Association, 1926

School life. For instance, it ought to meet and form and exalt the nascent sex-consciousness by literature that touches nobly and simply the theme of romantic love, and presents healthy and formative types of manhood and womanhood. It ought to provide food and outlet for the religious and ethical instincts that mature during what is preëminently the period of "conversions," as the psychologists tell us. It ought to feed that feeling for Nature which one statistician records as the most universal of the emotions of youth. And it ought to cater mildly to those sudden, and also generally shortlived, "crazes" for different forms of art, music, acting, etc., which are manifestations of a quickened sensitiveness to beauty. And these instinctive tendencies seem to develop contemporaneously, to sweep on to a maximum of energy, and then either to decline or to survive, weakly or vigorously, as the case may be. . . . It is a time when the senses and the passions are powerfully stirred; and yet it is a time also when latent idealism asserts itself, and the sharpened intellect refuses to be blinded by sense-allurements. It is a time when the "ego" has its birth, and may push on toward the brink of self-absorption and morbid introspection; a time of self-scrutiny and self-discovery, when a youth asks, What am I fit for? Where do I belong?—a time when the thirst for independence is keen. Yet it is also the time when the social nature, the sense of solidarity, the spirit of loyalty, the love of man and a headlong devotion to causes and to persons, even to the extent of heroic self-sacrifice, gains headway.¹

5. GROWTH OF ALTRUISM IN ADOLESCENCE

Real altruism does not develop to any great extent before adolescence. The child's early interests are primarily egoistic. He cares little for anything except his own selfish pleasures. He may appear interested in helping others but back of it is the expectation of something in return. He gives a playmate a bite of candy because he expects two bites in return. He is well-behaved and affectionate "just before Christmas" because of anticipated presents.

With adolescence, altruism develops rapidly if cultivated.

¹ Chubb, Percival, *The Teaching of English* (1924), p. 242

This does not insure a full fruition. Some adolescents—alas, many—never advance beyond the childhood stage in altruism. Of course, we should not expect the young child to be especially altruistic. If he is, there is something wrong with him. Adolescence is the time for the stimulation and exercise of the altruistic interests. Concern for others and a delight in promoting the welfare of others should come to be habitual attitudes. Opportunities should be afforded for doing for others in the home, at school, on the team, and in various groups to which they belong. Their studies in history, literature, and civics, should lead them to feel a genuine concern for the welfare of individuals and social institutions. This should not be mere sentimentalism but should be the outcome of intelligent study and rational guidance.

The growth of altruism is manifested in a variety of ways. It comes not merely through the expression of occasional generous impulses, but through the deeper concern for the welfare of others. An interest in the welfare of the parental family, of their baseball and football teams, radio club or even their pals and gangs is an evidence of altruism. Some of the finest examples of love and loyalty to be found anywhere are often shown among members of youthful marauding gangs. Never to “snitch” or “peach” on the members of the gang and to defend even to the death, are fundamental attitudes of many desperate gangs of hoodlums. This group loyalty and cohesion is deployed and utilized in hundreds of school and civic organizations. The same type and degree of enthusiasms may be exhibited by a boy in working for his scout troop, his football team, or his school.

Interest in social and civic welfare. To develop a wholesome, active interest in matters of common human welfare is the great objective of the modern teaching of civics in the school. We are not so much concerned that the pupils

possess information regarding the various branches of government, the multiform industries in the world, diverse methods of taxation, ways of transportation, or of communication, as we are that they think of the efficiency of all of these as means of promoting human happiness and welfare. Are the pupils glad that other people may travel, that they may receive letters, telegrams and radiograms; are they glad that others have fine houses, good automobiles, sufficient food, good books and newspapers to read, pictures and music to enjoy? Are they concerned and depressed because millions are in beggarly want, because famine and pestilence have overtaken whole nations, because some kings and princes demand tribute from their millions of poverty stricken subjects while they loll in effete luxury in their spacious, unearned palaces, because thousands of unfortunates must lie on beds of sickness without the meagerest of hospital conveniences or medical ministrations? It is this joy at the knowledge of the welfare of others and depression concerning the misfortunes of others that marks the beginning of real altruism. Its consummation is reached only when these emotional stirrings have prompted some real service contributing to the realization of their desires. Of course, civic knowledge must be gained as a basis of intelligent stimulation and control of altruistic emotions. But mere knowledge alone without the emotional outcome may leave the pupils as inimical to the welfare of their fellows as the flintiest hearted kings of old. A recent book on social civics¹ emphasizes the foregoing point of view.

The preface states that:

Both the method of presentation and the material selected, aim to develop the proper attitude of mind toward the great social-civic problems of our day. If only a healthy mental atti-

¹ Phillips and Newlon, *The New Social Civics*. Rand, McNally and Co., 1926

tude and a deep interest can be created in the student, the future will take care of itself. It is out of knowledge and facts that attitudes which control destiny are created. Problems are presented with a view to creating permanent interests, to developing a feeling that all must coöperate in the supreme business of securing health, happiness, and right living. *The whole book is founded on a belief that moral attitudes are of supreme importance.* Such attitudes cannot be directly or indirectly compelled. They can be developed only by arousing interest through the presentation of noble and inspiring examples, by the use of exciting facts, and by a personal application, rather than by the use of an exhaustive text of detailed facts.

Altruism in school activities. It must not be expected that pupils will have ready-made world sympathies. These are of slow development. Opportunity for the expression of altruism is the key to its unfoldment. The school can and should furnish abundant opportunities. The organization of a great variety of coöperative, extracurricular groups is coming to be recognized as a part of every up-to-date high school. Many of these originate spontaneously through the interest and initiative of students and many more are stimulated by the faculty. Even these should seem to be prompted by student initiative. If started by the faculty, the greater the extent to which they are taken over by the students the greater the interest on the part of the students. A feeling of ownership and pride in the organization is an important objective.

Care needs to be exercised to insure against purely selfish motives in belonging to and participating in the activities of the organization. Mere group organization and coherence do not mean social coöperation. Only when some common end is to be accomplished in which the welfare of the group is uppermost is there altruism. The individual must subordinate himself to the welfare of all concerned.

To be sure, individuals may profit but never at the expense of others. Each for all and all for each must be the ideal relation. This is well exemplified in football where team play is the cause of success. Furthermore, the success of the team should be subordinated to that of the school, the school to that of the community, and so on. The pupils should come to feel a proprietary interest in their school. They should constantly feel that every act of conduct of each individual reflects upon the school and also upon their community for better or worse. Once that attitude is established, school government is no problem at all. Through their study of civics they should gradually come to feel a proprietary interest in their community, their county, their state, their nation,—the world.

Altruism is needed not merely as an academic or religious attitude. Genuine interest in the welfare of the other fellow is absolutely necessary for the preservation of the world. With the unexampled opportunities for men to accumulate wealth and to enjoy luxuries unheard of but a few decades ago, it will be easy to become independent to a degree undreamed of by the kings of old. Men must be brought to realize in youth that great wealth and comforts and luxuries of civilization have been made possible only through the long continued coöperative efforts of multitudes of workers. A railroad corporation becomes wealthy only when there are passengers to be transported and freight to be hauled. Without farms and factories and people, the railroads would be worthless. The same is true of the oil king, the shoe manufacturers, and others.

The employer needs to understand that his wealth depends largely upon his employees. He should be as solicitous for their welfare as for that of his own children. The employees, on the other hand, need to realize that without employ-

ment their prosperity would be circumscribed. They should wish for the success of the employer. Both employers and employees should seek to promote the welfare of the community through the establishment and maintenance of roads, public works, schools, hospitals, care of the mentally handicapped, the protection of society from criminals and from fire, the relief of those stricken by accident and disaster. Public spirit means the recognition of all these interrelationships, and active participation in every means for furthering the highest welfare of all concerned.

6. ADOLESCENT SEX INSTINCTS

Dominance of sex development. At adolescence the dominant interests spring from sex development and center around sex. A part of these interests are conscious and direct but the majority are secondary and so disguised that the adolescents do not recognize them as sex instincts. The rapidly developing sex organs and sex phenomena inevitably produce a sex consciousness that is new and mysterious to the youth. Their ignorant curiosity, about which they feel reticent, often leads to morbid brooding. Fortunate are those adolescents who have wise, discerning parents who are able to guide them naturally and wholesomely into manhood and womanhood.

Dr. Winfield S. Hall says that:

One interesting phase of preadolescence is that while there is a definite sex consciousness there is not a reciprocal sex attraction. The boy thinks of the girl as a "girl" but he does not seek close social relations, in fact, both boys and girls are very unsocial toward one another. If one wishes to spoil a boy's birthday party just invite some "nice little girls" to come. By the same mark, if one wishes to spoil a little girl's birthday party, just ask some "rough, blundering boys" to come.¹

¹ O'Shea, *The Child: His Nature and His Needs*, p. 303

He contrasts the preadolescents with those who have fully entered upon the period of adolescence. He writes:¹

It will be advantageous to select a mid-adolescent, say a seventeen-year-old youth and a sixteen-year-old maiden. This youth and maiden are probably in the third or fourth year at high school. Physically, the youth has made a remarkable growth in the five years since we last observed him. He is perhaps five feet and eight inches in height, broad shouldered, deep chested, hard-muscled and fiery-eyed,—a good all-around athlete. He must use a razor at least three or four times a week to keep his beard in order. He is much more likely than his sister to be interested in mechanics, electricity, radio, and in the mechanism and running of autos and motor boats, in canoeing and sailing, in hunting with gun and dog and in fishing with rod and reel.

He is socially not only quite conscious of the femininity of his girl classmate and associate in school, but he wishes to associate with her. This wish is evidently reciprocated. There is at this age not only sex-consciousness but also reciprocal sex attraction.

Morally, the mid-adolescent youth has experienced an awakening; he is no longer unmoral; either he is definitely and positively moral and ethical or he is definitely and positively immoral and unethical. The reason for this moral consciousness is in all probability due to the fact that the youth of seventeen is beginning to be thoughtful, and in his thinking of things that he observes, he reaches logical (or near-logical) conclusions; and he is acquiring a tendency to shape his line of action in accordance with the conclusion which he has reached.

The maiden of sixteen is now quite definitely a young lady. Her figure is attractive as a rule and she is graceful in her movements. Her measurements, as shown in the study by Bowditch referred to in a foregoing paragraph, and also demonstrated by W. W. Hastings in his *Manual of Physical Measurements*, 1902, show a remarkable modification. She is perhaps five feet, three inches in height; her pelvic measurements are, relative to her other girths and diameters, much increased. Also the girth and depth of chest at the fifth rib level are greatly increased relatively

¹ Ibid., p. 303

because of the development of the breast. Her head is adorned with a wealth of glossy hair.

Mentally, she is likely to be especially interested in music, art, and the domestic arts and crafts. Morally, she is likely to have high ideals and altruistic motives. Socially, she is sensitively conscious of her femininity and the virility and manhood of her young men acquaintances and friends, and is happy to meet with them socially.

Sex-interests basis of home-making and altruism. All educators should recognize and follow the various stages of development. Sex interests are dominant at adolescence and youth will inevitably be all absorbed in romantic feelings concerning love, marriage, and home-making. Is there not a golden opportunity to help them to think of these events naturally, normally and healthfully instead of coupling them with the basest of selfish and animal instincts? Unfortunately these questions are generally taboo in the home or are treated with levity. The movies and the comic strips appeal only to the lowest passions and the talk among young people reflects what they see, what they read, and what they hear. Is it any wonder that the divorce courts are cluttered and that the sanctity of the home has become well-nigh obsolete?

What finer service could be rendered society than that of introducing adolescents to the finest, most elevating romantic literature? They are certain to read the literature of love and romance, but such literature, unless the adolescent is carefully guided, is apt to be secured by stealth and to be so tinctured with the poisons injected by writers who, for lucre, appeal only to the basest of passions.

Education of sex emotions should be, as Glenn Frank has said, "an education that shall rescue sex from the slime of sentimentality and sniggering and bring it into the sunlight of sincerity and sense."¹

¹ Syndicated Article, *Seattle Times*, Oct. 11, 1928

Marriage, the founding of a family, protection by life insurance, and the accumulation of property, are all fundamentally altruistic, though there may be little consciousness of the fact on the part of the individual. In the education of youth there should be courses designed to show the value of all these to society. The beauty and the sacredness of the home should be the central theme in a course in home economics. In fact, the title of the course should not be home *economics* but home *building*. A home is not primarily an economic institution but one where love and altruism provide group coherence. A pioneer's shack or a two-room bungalow may shelter a more real home than a millionaire's mansion. The course in home-making should include child study, social facts and forces, music and art, education of the young, as well as the weekly budget, the cuts of beef, or the economy of electricity. These latter are important, but as means and not as objectives. The ideal home life in society should be the guiding star in the quest. People in filial relations rather than materials should be the center of the picture.

To-day's news dispatches emphasize the idea just expressed. The House of Bishops of the Episcopal Church received a special report on marriage and divorce which contained the following recommendations:

That our normal schools, colleges, universities and seminaries be asked to offer more instruction on the subjects of human relationships, especially on the subject of marriage.¹

7. COUNTER INFLUENCES

Debasing influences on news-stands and in movies. In spite of these normal, healthy interests in reading, the youth's attention is continually directed to that which is degrading instead of uplifting. The news-stands in certain

¹ *Seattle Times*, October 17, 1928, p. 1

localities are loaded with magazines that appeal to the basest emotions. Many of these periodicals are filled with the lowest type of sex appeal and others picture crime in such a manner as to make it seem smart and approved. Even some of the standard magazines are not wholly above criticism. The daily press, especially the Sunday supplements, contains much that has a very questionable influence upon the minds of children and youth. Even many of the apparently harmless comic strips portray much that is coarse and vulgar and impress low standards upon the plastic mind.

Flaming posters on the billboards and the reels in the moving picture shows make vivid and lasting impressions. Teachers and parents everywhere are criticising these various media of education because of the degrading influence which many of them exert.

8. THE LANGE-JAMES THEORY OF THE EMOTIONS

In the education of emotional life it is important to understand the relation between the emotions and other phases of life. In trying to improve the behavior of pupils we usually try to impress upon them certain facts and to get them to acknowledge the validity of these facts in the hope and the expectation that when they perceive the error of their ways they will be duly sorry and that they will behave differently. That is, the usual popular interpretation is that (1) we acquire knowledge; (2) we feel joy or sorrow, pleasure or pain, and then (3) we act in such a way as to further the pleasure and to eliminate the pain.

About thirty years ago, however, Professor James, of Harvard, and Professor Lange, a Scandinavian psychologist, independently and almost synchronously, came to a differ-

ent conclusion from their analysis of these states. Professor James in his inimitable way said:

Our natural way of thinking about these coarser emotions is that the mental perception of some fact excites the mental affection called the emotion, and that this latter state of mind gives rise to the bodily expression. My theory, on the contrary, is that *the bodily changes follow directly the perception of the exciting fact, and that our feeling of the same changes as they occur is the emotion.* Common sense says, we lose our fortune, are sorry and weep; we meet a bear; are frightened and run; we are insulted by a rival, are angry and strike.¹

That is, the ordinary interpretation of the sequence and that by James and Lange are as follows:

The common interpretation	1. Knowledge	1.	The Lange-James Interpretation
	2. Emotion	3.	
	3. Action	2.	

No lengthy arguments will be entered upon here. It will probably be sufficient to call attention to the fact that if one has real cause for anger and resolutely refrains from grinding the teeth, clenching the fists, or verbally expressing anger it seems to diminish or disappear. One can not remain very angry with all muscles relaxed. Benjamin Franklin said, "If angry count ten; if very angry count a hundred." That is doubtless sound psychology. The one who sits bowed down by grief only increases the grief, while the one who straightens up, gets into the sunshine, and assumes an attitude of cheerfulness to a certain extent mitigates the grief. Some actors say that when expressing certain emotions in the play they experience the emotions as real. Some actors refuse to play the rôle of the villain because of the reflex effect upon them. Is there not good psychology in whistling to keep up one's courage?

¹ *Psychology*, Vol. II, p. 449

9. EDUCATIONAL APPLICATIONS OF THE LANGE-JAMES THEORY

Although I do not subscribe to the Lange-James theory in its extreme interpretation, it appears as if there were reciprocal relations between the expression of an emotion and the emotion itself. If true, then manifestly one way to develop any emotional state is to give opportunity for its expression. If undesirable emotions are to be eliminated then plainly, if their expression is inhibited, the emotion will tend to be reduced or removed altogether.

Happiness and good cheer are certainly very desirable habitual attitudes to cultivate. We can not make the child feel happy or cheerful by merely telling him to be happy or cheerful. By giving him certain kinds of knowledge as that he is to have a holiday, a pair of new skates, a baseball, or a pumpkin for a jack-o-lantern, we may furnish the stimulation to happiness. But, in addition, he should be encouraged to give expression to his mood. By shouting in glee, by jumping into the air, by yelling the good news to somebody else, the happiness is enhanced tenfold. Free, unrestrained expression of joy and gladness on the playground is one of the best means of insuring an aftermath of euphoria in the school room later.

Friendship, good will, brotherly love, and patriotism all grow through expression. When a boy *does* a friendly good turn he experiences a far greater growth in friendliness than he would derive from hours of reading about the meaning of friendliness. Stimulate friendly actions by providing situations calling for friendliness and by having companions to imitate who have become habituated to kindly behavior expressed automatically. James says:

A tendency to act only becomes effectively ingrained in us in

proportion to the uninterrupted frequency with which the actions actually occur, and the brain "grows" to their use. Every time a fine resolve or a fine glow of feeling evaporates without bearing practical fruit is worse than a chance lost; it works so as positively to hinder future resolutions and emotions from taking the normal path of discharge. There is no more contemptible type of human character than that of the nerveless sentimentalist and dreamer, who spends his life in a weltering sea of sensibility and emotion but who never does a manly, concrete deed. Rousseau, inflaming all the mothers of France, by his eloquence, to follow nature and nurse their babies themselves, while he sends his own children to the foundling hospital, is the classical example of what I mean. . . . Even the habit of excessive indulgence in music, for those who are neither performers themselves nor musically gifted enough to take it in a purely intellectual way, has probably a relaxing effect upon the character. One becomes filled with emotions which habitually pass without prompting to any deed, and so the inertly sentimental condition is kept up. The remedy would be, never to suffer one's self to have an emotion at a concert without expressing it afterward in *some* active way. Let the expression be the least thing in the world—speaking genially to one's aunt, or giving up one's seat in a horse-car, if nothing more heroic offers—but let it not fail to take place.¹

The importance of play should not be overlooked as a means of emotional education. In play there is constant opportunity for the spontaneous expression of the whole gamut of emotional life, joy, friendship, chivalry, generosity, bravery, courage, and hosts of others. These are naturally expressed and felt because through play the bodily tone encourages the best emotions and the conditions and traditions of play all aid in selecting the better emotions for expression.

The Boy Scout movement is founded upon a sound and wholesome psychology. It seems thoroughly in accord with

¹ James, *Principles of Psychology*, Vol. I, p. 125

the Lange-James philosophy of the emotions. Instead of saying much about kindness, friendship, and bravery, it teaches the boys largely through imitation and opportunity for expression, to *do* the things which they wish to inculcate. "Do at least one good deed each day" is a fundamental Scout law. Music is one of the most potent instruments for the development of the emotions. Music is the universal language of the emotions. Its study by the great majority should have the awakening, the stimulating, and development of the emotions as the chief objective. By music I do not mean the formal, intellectual analysis of music. That is the science of music. Just as one may without studying grammar acquire the mother tongue so as to understand and express, one may learn to understand and express music without studying its technique. The child naturally sings when he is happy. He should be given an opportunity to lift up his heart spontaneously in gladness through singing. The great majority have no need of musical technique or science, but everybody could profit by learning to sing songs expressing joy, friendship, patriotism, reverence, and all the finer emotions.

Not only vocal music but all forms of instrumental music may contribute greatly to the development of the emotional life. Fortunately schools are encouraging bands and orchestras as a means of drawing pupils to school and making their life happier while there. As a means of cementing the school into a unified body, joining whole-heartedly in the life of the school, no other can be found quite so valuable as music. We ought consciously to employ the same means of awakening a love for national life. Many foreign nations have done this for generations. Before the World War every German from kindergarten children to grandsires could sing "Die Wacht Am Rhein." Every inhabitant of

France can sing the "Marseillaise," and what Englishman can not and does not sing "God Save the King"?

The main purpose of the course in civics is to develop attitudes, that is, emotions. New and finer attitudes toward government, toward one's local community, toward one's own state, toward one's own nation, toward the world, should be the paramount objective. Of course, these attitudes should be intelligently formed and guided, but the important thing is not mere information. Citizenship is far more a matter of attitude than of knowledge. Many a widely informed person is a bad citizen and many a person who is not very erudite is a splendid citizen. The course in civics may be made replete with opportunities for actually performing some of the duties of good citizenship. The school may lead the community in a "clean-up week." The school premises may be furbished, playgrounds and equipment constructed, desks revarnished, furniture made for the school, funds secured for books and libraries. The work may be carried over to vacant lots, to the streets, and to public buildings. All this gives a proprietary interest in the school and the community.

In many schools most of the extracurricular activities of the school are managed mainly by the pupils. The baseball, football and track activities, the school paper, the glee club, and scores of other enterprises, are organized and managed largely by the pupils, of course, under guidance. The participation, the doing, is what develops the attitudes. Not only may the extracurricular activities be managed by the pupils but many regular functions like order in the halls, meeting and guiding visitors, the distribution of books and other materials are delegated to the pupils with great success from the standpoint of the administration and with great educational value to all pupils concerned.

SELECTED REFERENCES

- BOLTON, FREDERICK E. *Everyday Psychology for Teachers*, Chapter X. Charles Scribner's Sons, 1923
- BOLTON, FREDERICK E. *Principles of Education*, Chapter XXV. Charles Scribner's Sons, 1910
- BROOKS, FOWLER D. *The Psychology of Adolescence*, Chapters VIII, X. Houghton Mifflin Company, 1929
- GATES, ARTHUR I. *Psychology for Students of Education*, Chapter VII. The Macmillan Company, 1923
- JAMES, WILLIAM. *Principles of Psychology*, Vol. 2, Chapter XXV. Henry Holt and Company, 1896
- MCDUGALL, WILLIAM. *Outline of Psychology*, Chapter XI. Charles Scribner's Sons, 1923
- PECHSTEIN, L. A. and MCGREGOR, A. LAURA. *Psychology of the Junior High School Pupil*, Chapter VIII. Houghton Mifflin Company, 1924
- PILLSBURY, W. B. *Education As the Psychologist Sees It*, Chapter XII. The Macmillan Company, 1925
- REYMERT, MARTIN (Editor). *Feelings and Emotions: The Wittenberg Symposium*, Chapters II, VIII, XXIX. International University Series, Clark University, 1928
- SANDIFORD, PETER. *Educational Psychology*, Chapter VII. Longmans, Green and Company, 1928
- THORNDIKE, EDWARD L. *Educational Psychology*, Vol. I. Teachers College, Columbia University, 1913
- TRACY, FREDERICK. *The Psychology of Adolescence*, Chapter VI. The Macmillan Company, 1920

CHAPTER XI

ADOLESCENT INTELLIGENCE

1. THE MEANING OF INTELLIGENCE

Various definitions. During the last few years the term "intelligence" has been the cause of not a few verbal wars. At the present time the exact definition seems fully as remote as it did a decade ago. In fact, a perusal of all the discussions would lead one to believe that the longer the combat continues the greater the confusion. For example, Otis¹ seems to consider intelligence as "brightness," a general quality of mind. McCall implies that there are different kinds of brightness as brightness in different subjects. Colvin wrote that "An individual possesses intelligence in so far as he can learn to adjust himself to his environment."

Thorndike maintains:

That there are different types of intelligence or mental ability: social intelligence, or the ability to get along with other people; mechanical intelligence; and the ability to think in terms of abstract ideas or symbols.²

Spearman³ considers that there are two types of intelligence, general and specific. All intellectual activity is due to some kind of general power, and ability in special lines

¹ *Statistical Method in Educational Measurement*, Chapter 13, World Book Company, 1925

² Carroll, Robert P. "What is Intelligence?" *School and Society*, Dec. 22, 1928, Vol. XXVIII

³ Spearman, C. "The Theory of Two Factors." *Psychological Review*, 21: 101-115. 1914

is due to some specific capacity in addition. Freeman¹ says; "Our tests are most successful as measures of the composite of mental abilities which is sometimes called intelligence."

The interpretation made by the writer of this book is that intelligence is the *native* ability to learn, to acquire information or knowledge, to perceive, to remember, to think, to judge. It is thus distinguished from acquisitions of information and knowledge. The native ability is the foundational condition for acquiring. Acquisitions, however, will be modified by previous acquisitions and envioning conditions. Doubtless the selection of the term *intelligence* is unfortunate in connection with this concept because what we really wish to know is the individual's native endowment of ability in the whole range of mental life. This includes feelings, emotions, and volitions as well. The intelligence tests do not measure these in the least. We still further wish to know regarding combinations or complexes of abilities such as are involved in leadership, mechanical execution, inventiveness, civic insight, financial success, and personality.

Tests reveal acquired information, not native ability. What the intelligence tests reveal is not native ability but acquired possessions, mainly acquired information, and that of the formal school type. It is probable that the possession of such information as is probed for by the Army Alpha Tests, the National Intelligence Tests, the Binet Tests, various point scales, the varied mentimeters, all patterned after the Binet Tests and the Army Alpha Tests, do indicate to some degree native ability to acquire information, knowledge, or skill; but there is no wizardry or

¹ Freeman, Frank N., *Mental Tests*, p. 5. Houghton Mifflin Company, 1926

occult power in any or all of the tests. Vastly different questions given and standardized would do as well. There is a wide-spread belief that these tests may be given by anybody and that the results are indisputable and final.

TABLE XV
TERMAN'S CLASSIFICATION ON BASIS OF I.Q.'s*

I.Q.	Rating	Progress in School
Above 140	Near genius or genius	Not usually stimulated to do their best. Could easily be prepared for high school by 12. About 3% have I.Q. of 125; 1% 130; $\frac{1}{4}$ % 140
120-140	Very superior intelligence	
110-120	Superior intelligence	110 is about the average intelligence of high school pupils. Could complete 8 grades in 7 years. Frequently skip grades
90-110	Normal or average intelligence	Average school records. I.Q. 95 to 105 seldom fail, seldom skip a grade
80-90	Dullness, rarely classifiable as feeble-mindedness	Usually able to reach 8th grade; ordinarily with 1 to 4 failures
70-80	Border line deficiency; sometimes classifiable as dullness, often as feeble-mindedness	Some reach about 4th grade in about 8 years
Below 70	Definite feeble-mindedness	Do nothing in school

*Based upon Terman's *Intelligence of School Children*, Chapter VI.

A pathetic fetichism has grown up around them. Confessedly they are a very crude, clumsy, inaccurate, and one-sided means of appraising innate mental ability. They have a certain value as a standardized means of comparing acquired information and for checking general observation, but of themselves they can reveal nothing concerning an

individual which can not be discovered by merely common sense observation. They are valuable in quickly assaying the intellectual acquisitions of large groups and indicating the general status for classification of the group, but they should in no wise be regarded as the final appraisal for a given individual. That they are crude, inaccurate, and one-sided is being attested by the many controversies published in current standard educational and psychological magazines.

TABLE XVI
DISTRIBUTION OF I.Q.'s OF 107 FIRST-YEAR HIGH SCHOOL PUPILS

I.Q.	Per cent	
70-79	.9	7.5% Below average
80-89	6.6	
90-99	29.0	92.3% Average or Superior
100-109	23.3	
110-119	21.4	
120-129	14.0	
130-139	4.6	

2. THE DISTRIBUTION OF INTELLIGENCE SCORES

Classification on the basis of I.Q.'s. Terman suggests the classification indicated in Table XV on the basis of intelligence quotients.¹

Distribution of I.Q.'s of first-year high school pupils. Proctor found in his study of 107 first-year high-school pupils that on the basis of their I.Q.'s they were distributed as indicated in Table XVI.²

According to the foregoing facts only 7.5 per cent of the first year high school pupils had I.Q.'s below 90. The other

¹ Terman, Op. cit., p. 81

² The program in school for those with different levels of intelligence, as estimated by Terman, is also indicated in the tabular statement (XVI)

92.3 per cent had I.Q.'s of 90 or above. That is, according to Terman's classification of pupils 92.3 per cent were of normal or average ability. Even admitting that half of these rated as having I.Q.'s between 90-99 might fail in half their school work there were still 76.8 per cent with I.Q.'s of 95 or above who, according to Terman, have sufficient ability to succeed in high school work. Plainly on the basis of the most rigid classification, three-fourths of all pupils who enter high school have ability enough to carry high school work successfully.

Terman even says that:

The child who tests at 90 is near enough the average to make normal or almost normal progress through the eight grades, although there is some likelihood of his incurring retardation of a half year to a year. Such a child, if persistent, may also be expected to graduate from high school, although the difficulty of making normal progress there is somewhat greater than in the grades below the high school, due to the fact that his competitors in the high school are selected pupils.¹

Proctor's distribution of I.Q.'s among pupils in the first year of the high school is strikingly corroborated by a much more extensive and recent (1929) investigation conducted by Hughes and the Research Staff in Pasadena. Hughes found the I.Q.'s of 2393 junior high school pupils, the results of which are indicated in the accompanying Table XVII. Terman's classification has been applied. According to that classification, there were 16.59 per cent very superior, 24.65 per cent superior, 49.98 per cent average pupils. That is, 41.24 per cent were superior or very superior and 91.22 per cent were average or above. Only 7.14 per cent could be classified as dull and only 1.17 per cent as border line cases. About eight per cent only were below average. The

¹ *Intelligence of School Children*, p. 130

two foregoing studies, which are corroborated by others, do not show that the high schools are overburdened with hordes of intellectual incompetents.

Distribution of Army Alpha Scores of high-school pupils. A comparatively recent investigation of such magnitude and thoroughness as to make it a standard for some time to

TABLE XVII

DISTRIBUTION OF I.Q.'s OF 2393 JUNIOR HIGH SCHOOL PUPILS IN PASADENA (1929)*

I.Q.	Number	Per cent	Classification
130 and Above	104	4.35	16.59 Very Superior
125-129	105	4.39	
120-124	188	7.85	
115-119	276	11.53	24.65 Superior
110-114	315	13.12	
105-109	330	13.37	49.98 Average
100-104	386	16.13	
95-99	272	11.37	
90-94	218	9.11	
85-89	109	4.55	7.14 Dull
80-84	62	2.59	
Below 80	28	1.17	1.17 Borderline

*Statistics given in *Educational Accomplishment*, published in Administrative Research Series, October, 1929, Monograph No. 3, Pasadena, California.

come was made by Miss Margaret V. Cobb.¹ This investigation was conducted under the direction of Thorndike and made possible by a subvention provided by the Commonwealth Fund which insured its thoroughness and reliability. Miss Cobb secured the results of Army Alpha tests given to 4,717 high-school pupils in Wisconsin, Michigan, Iowa,

¹Cobb, Margaret V. "The Limits Set to Educational Achievement by Limited Intelligence." *Journal of Educational Psychology* (November and December, 1922), 13: 449-464, 546-555

and Illinois. The test was given to pupils in each of the four years of the standard high school. The accompanying table (XVIII) shows the distribution of the intelligence scores. The highest score possible on the Army Alpha scale is 212 points, the lowest 0. The highest score made by a freshman was 180 points. Three pupils or seven per cent of all freshmen made that score. The lowest score was fifteen points; that being made by one sophomore. The highest score made was 200 points, the achievement of one senior. The rest of the scores are quite uniformly distributed and if plotted would make a fairly typical normal curve of distribution.

From the very comprehensive program of testing in the army draft during the World War it has been estimated that the median intelligence of the adult American population would be represented approximately by the Alpha score of sixty-five, or a mental age of thirteen years. Miss Cobb assumes that the American high school doors, therefore, ought to swing open to anyone with median intelligence represented by the Alpha score of sixty-five. For graduation from the high school she believes from her study that an intelligence represented by an Alpha score of eighty-five is necessary. This conclusion is drawn from the fact that very few with lower scores persist to the fourth year. An inspection of the table shows that only 4.5 per cent of juniors and 5.08 per cent of seniors are below that level. To succeed in algebra seems to require a higher intelligence score.

In Miss Cobb's own words:

The minimum intelligence usually necessary in order to enter high school is represented at age 14 by an Alpha score of 65; the minimum usually necessary to achieve high school graduation is represented at age 14 by a score of 85 points; the minimum for profit from present high school algebra is about 105.

TABLE XVIII
INTELLIGENCE SCORES MADE BY HIGH-SCHOOL PUPILS ON
ARMY ALPHA TESTS

Alpha Score	FRESHMEN		SOPHOMORES		JUNIORS		SENIORS	
	Number Making the Score	Per cent Making the Score	Number Making the Score	Per cent Making the Score	Number Making the Score	Per cent Making the Score	Number Making the Score	Per cent Making the Score
205								
200							1	0.13
195							0	
190							2	0.26
185					2	0.20	0	
180	3	0.17	2	0.16	4	0.41	4	0.52
175	0		1	0.08	7	0.72	6	0.78
170	2	0.12	6	0.48	11	1.13	14	1.83
165	3	0.17	9	0.79	18	1.84	18	2.35
160	7	0.41	9	0.79	16	1.64	21	2.74
155	7	0.41	17	1.36	39	3.99	38	4.96
150	12	0.70	22	1.76	42	4.30	33	4.30
145	16	0.93	39	3.11	41	4.20	41	5.35
140	20	1.16	51	4.07	61	6.24	60	7.83
135	40	2.32	38	3.03	68	6.96	47	6.13
130	58	3.37	75	5.90	68	6.96	50	6.52
125	80	4.65	82	6.54	76	7.78	67	8.75
120	80	4.65	91	7.26	84	8.60	60	7.83
115	94	5.46	93	7.42	92	9.41	61	7.96
110	95	5.52	110	8.78	79	8.09	60	7.83
105	120	6.97	93	7.42	60	6.14	51	6.66
100	113	6.57	100	7.98	58	5.94	42	5.48
95	157	9.13	85	6.78	53	5.42	22	2.87
90	130	7.55	95	7.58	29	2.97	20	2.61
85	156	9.07	68	5.42	25	2.56	9	1.17
80	119	6.92	47	3.75	17	1.74	8	1.04
75	109	6.34	44	3.51	11	1.13	20	2.61
70	99	5.75	28	2.23	6	0.61	4	0.52
65	71	4.13	21	1.68	4	0.41	4	0.52
60	50	2.90	13	1.04	2	0.20	1	0.13
55	29	1.68	5	0.40	3	0.31	2	0.26
50	28	1.63	5	0.40	0			
45	14	0.81	2	0.16	1	0.10		
40	1	0.06	0					
35	6	0.35	1	0.08				
30	0		0					
25	2	1.12	0					
20			0					
15			1	0.08				
10								
No. of cases	1,721		1,253		977		766	
Median	96.48		110.84		122.89		126.42	
Median mental age	15-3		16-2		17-0		17-4	

Miss Cobb verifies this interpretation showing that the lower half of the population, practically without exception, has not continued in school beyond the lower grades. She says:

It will be seen then that in spite of the wide range of ability in high school freshmen, of which every high school teacher must be conscious, there are nevertheless few (less than 7.5 per cent) who have not median intelligence or better, as measured by the Alpha examination. This corresponds approximately to a mental age of 13. The pupils in academic high schools are, in fact, a limited group which just about covers the upper half of the whole range of American intelligence.¹

3. THE CORRELATION OF INTELLIGENCE SCORES WITH SCHOLASTIC ACHIEVEMENT MARKS

The relation of I.Q. to achievement. It is important to know the predictability of success in school work of pupils when their I.Q.'s have been determined. This has been calculated very carefully by Terman and Proctor. Although they studied small numbers their results are doubtless fairly reliable. Other investigators have computed the correlation between intelligence and school success for larger numbers but mainly with other tests and not in terms of I.Q.'s.

Terman says that:

Those testing 80 and 90 will usually be able to reach the eighth grade, but ordinarily only after from one to three or four failures.²

This includes, according to Terman, about fifteen per cent of the total school enrollment.

¹ Loc. cit.

² *The Measurement of Intelligence*, p. 93

He adds:

Our records show that, of more than 200 children below 14 years of age and with I.Q. between 95 and 105, not one was making much more nor much less than average school progress. Four were two years retarded, but in each case this was due to late start, illness, or irregular attendance. Children who test close to 90, however, often fail to get along satisfactorily, while those testing near 110 are occasionally able to win an extra promotion. The children of this average group are seldom school problems, as far as ability to learn is concerned. Nor are they likely to cause trouble in discipline as the dull and border-line cases. . . . About 60 per cent of all school children test between 90 and 110 I.Q. and about 40 per cent between 95 and 105.

It should be kept in mind that this refers to *all* the children in school and not to those in the high school.

High schools probably enroll a disproportionate number of pupils in the I.Q. range above 100. That is, the average intelligence among high school pupils is above the average for the population in general. It is probably not far from 110. College students are, of course, a still more selected group, perhaps coming chiefly from the range above 115.

Various intelligence scores and achievement marks. While standardized intelligence tests are of comparatively recent origin they have been very widely used and very critically evaluated by many investigators. It is therefore possible to determine within reasonable limits their reliability in predicting the future academic success of groups of pupils from their intelligence scores. A brief summary of the best known studies in the correlation between various intelligence test scores and achievement marks will be quoted. The first citations refer to correlations between scores on certain intelligence tests and high school grades. These summaries are first presented in tabular form (XIX) and then brief comments are added.

Most of the figures have been taken from Symonds, the rest from Book.¹ The correlations have been made with various groups and with various tests. In the cases where the groups were in the junior high school or in the senior high school the studies do not indicate exactly which years were included. Presumably the junior high school comprised the seventh, eighth, and ninth years and the senior high school comprised the tenth, eleventh, and twelfth years.

It should be remembered that a correlation coefficient of less than .6 or .7 is considered low and has little predictive value in prophesying regarding any given individual. The coefficients of correlation obtained in the tabulated studies are therefore low, in most cases very low. Only a few are high enough to have any great significance for individual cases. They are high enough to show that in a given group a majority of those making high intelligence scores would probably earn good or high grades in their studies. Conversely, the majority of those making low intelligence scores would earn relatively low grades in their studies. However, the correlations are so low that we might fully expect many individuals with high intelligence scores to earn low scholastic marks and many pupils with low intelligence scores to earn good or even high grades in their studies.

Fortunately an epoch-making study has been made of this question by Professor Book, Head of the Department of Psychology, University of Indiana. He made a state-wide study of the intelligence of high school seniors, using a battery of tests devised in the Department of Psychology at the University of Indiana. He compared their intelli-

¹Symonds, Percival M., *Measurement in Secondary Education*, pp. 397, 398. The Macmillan Company, 1927. Book, Wm. F., *The Intelligence of High School Seniors*, pp. 93-112. The Macmillan Company, 1922.

gence scores with their school progress, the occupations of their fathers, vocational choices, intention of further study, and many other interesting relations. In this present study,

TABLE XIX
CORRELATION BETWEEN INTELLIGENCE SCORES
AND HIGH SCHOOL GRADES*

Investigator	Tests Used	9th Yr.	Jr. H.S.	Sen. H.S.	12th Yr.
Flemming	Terman Group B Miller Group A Otis Higher Test B		.60 .47 .52	.63 .49 .32	
Proctor	Binet I.Q. (Given 1916-'17) Binet I.Q. (Given 1918-'19) Army Group A Army Group Alpha	.545 .487 .343 .413			
Jordan	Otis Army Alpha Miller Terman			.450 .476 .476 .492	
Jordan's Average from various studies	Otis Army Alpha Miller Terman			.49 .38 .56 .47	
Book	Indiana University Intelligence Scale, Schedule D				.282
Rice	Indiana University Intelligence Scale, Schedule D			.47	

*See Symonds, *Op. cit.*, pp. 397-8

only one correlation will be considered, that of intelligence with school grades.

Dr. Book computed the correlation between the intelligence scores and the academic grades of all the seniors

included in the state-wide investigation. The coefficient of correlation was .282, P.E. .05 for the boys and .277, P.E. .05 for the girls. (Pearson's formula.)

Mr. Rice, one of Dr. Book's students, selected at random 124 of the 176 seniors of the Shortridge, Indianapolis, High School, who took the intelligence tests and computed the correlation between the intelligence scores and the marks earned during their entire four-year high-school course. The following table summarizes the results:

TABLE XX

COEFFICIENTS OF CORRELATION BETWEEN INTELLIGENCE SCORES AND THE AVERAGE SCHOLASTIC MARKS OBTAINED IN VARIOUS SUBJECTS (RICE)

High School Subjects	Eng.	Math.	Hist.	All Sci.	All For. Lang.	Average Scholastic Success	Chem.	Latin
Intelligence Coefficient	.44	.37	.25	.44	.31	.47	.52	.26
P.E.	.05	.05	.06	.05	.05	.05	.06	.06

The coefficient of correlation of the intelligence tests with the average of the high school grades is .47, P.E. .05. The correlation with the various subjects ranges from .26, P.E. .06 to .52, P.E. .06. Book comments as follows:

This, like our own figures, is a positive though rather low correlation, but compares favorably with the results obtained by other investigators who have made investigations somewhat similar to our own. Binet found a coefficient of correlation between pedagogical advance and mental advance of .45; Bobertag compared mental age with school marks and obtained a coefficient between poor marks and mental retardation of .52, and between good marks and mental development of .59; Pressey found a correlation between intelligence score and school marks of .48; Terman obtained a coefficient of correlation between school marks and mental age of .45. . . .

Those seniors who made the best mental rating on the intelligence tests, if taken as a group, made the best scholastic record in high school. Those making the poorest intelligence rating on the mental tests made the poorest scholastic rating. The brightest students, considered as a group, fall among those making a school record of "excellent" or "very good." The dullest fall among those rated "poor" in their scholastic work. . . . If taken for individual cases, intelligence scores are poor criteria for predicting the kind and amount of school success that will be attained. . . . Other factors besides intelligence play an important rôle in attaining school success. . . . Ability to *learn* and *do* are not synonymous with actual performance; because a pupil has the ability to *learn* or *do* his school work, it by no means follows that he will do it. . . . The results of intelligence tests indicate what he *can do* or is *capable* of doing.¹

4. CORRELATION BETWEEN ACHIEVEMENT MARKS IN LOWER SCHOOLS AND HIGHER

Various studies have been made of the correlation between grades in studies made in one stage of school and the pupils' success in the next higher stage. There is a positive, significant correlation. This is so great as to make it of definite predictive value in prophesying future performance from past achievements. That is a noteworthy fact because so much has been said and written regarding the unreliability of teachers' marks. As will be shown below they are doubtless the one best single factor known for predicting future success from past behavior.

Twenty years ago Dearborn in an epoch-making investigation compared the marks of 472 pupils from eight high schools in Wisconsin with their subsequent standings as students in the University of Wisconsin.² This included all

¹ Book, Wm. F., *The Intelligence of High School Seniors*, Chap. VI

² Dearborn, W. F., *The Relative Standing of Pupils in the High School and in the University*. Published by the University of Wisconsin, 1909

who entered the University from those high schools from 1900 to 1905. They were therefore unselected and typical. He was able to follow 180 of the 472 through the entire four years of their University career. Excerpts from Dearborn's study follow:

Of these 472 pupils, only five who stood in the lowest quartile of the group on entrance succeeded in reaching the rank of the first quartile, and they secured only the lowest grade in the quartile; similarly, but five of those who entered in the first quarter of this large group dropped to the lowest quarter during the freshman year, and they stood in the highest grade of this quartile. . . .

The chances are but about one in five that the student who has done poorly in high-school work—who has been in the lowest quarter of his class—will rise above the median or average of the freshman class at the university, and the chances that he will prove a superior student at the university are very slim indeed.

Those students who are the best scholars in the high school are, usually, the best in the university, and, similarly, that the poor scholars in the high school tend to remain so in the university. A little over 80 per cent of those who were in the lowest or highest quarter of the group in the high school are found in their respective halves of the group throughout the university. . . .

The correlation between their high school standing and their rank in the University was .80.

Dearborn found that many more of those entering with low standings were eliminated from the university during their freshman year than of those who entered with high standings. He says:

As was to be expected, the larger number who drop out are found in the lower quartiles. Out of the group of 472, 93, or 19.7 per cent, leave during freshman year, and 43, or 12 per cent, during sophomore year, showing a total of 136, or 31.7 per cent, eliminations in the two years. In other words, about one-third of the group were eliminated in the first two years of college.

In 1910 one of my students, Dr. Walter R. Miles, compared the records made by pupils in the elementary grades with their subsequent records in the high school and in the University of Iowa. He compared the records made by 106 in the fifth, sixth, seventh, and eighth grades with their four year high-school records. He was able to follow fourteen of them into their University work. His study showed very definitely that there is a high correlation, .71, between accomplishment in the grade school and the high school. His study of the small group in the University corroborated Dearborn's conclusions.¹

In 1912 Dr. Franklin O. Smith, another one of my students, made a comparative study of the high school and university marks of 120 students in the University of Iowa. He followed much the same procedure as Dearborn but divided his groups into quintiles instead of quartiles.² His findings are indicated in the following excerpts:

On the basis of the general averages in the high school and in the university it is seen that more than one-half (54 per cent) of the pupils who were in the first or highest quintile in the high-school grouping remain in the corresponding quintile in the university grouping, and that somewhat less than half (42 per cent) of those in the fifth or lowest quintile in the high-school grouping are in the same quintile in the university grouping. Furthermore, 29 per cent of those in the first quintile are in the upper half of that quintile while only 16.5 per cent of those in the lowest quintile are in the lower half of that quintile. That is, 12.5 per cent more pupils move up from the lowest positions in the high school to relatively higher positions in the university than move down from the highest to relatively lower positions.

¹ Miles, Walter R. "Comparison of Elementary and High School Grades." *Pedagogical Seminary* (December, 1910), 17: Reprinted as No. 1, Vol. I, University of Iowa *Studies in Education*

² "A Rational Basis for Determining Fitness for College," *Pedagogical Seminary* (June, 1912), 19: 137-153

TABLE XXI

DISTRIBUTION BY QUINTILES IN HIGH SCHOOL AND UNIVERSITY

High School	1st Q. %	2nd Q. %	3rd Q. %	4th Q. %	5th Q. %
1st Q.	54	16.6	16.6	4	8
2nd Q.	25	29	16.6	12.5	16.6
3rd Q.	16.6	25	21	21	16.6
4th Q.	0	25	25	33.3	16.6
5th Q.	4	4	21	29	42

President Lowell of Harvard, by less accurate statistical methods, studied the records of students who were graduated first from Harvard College and subsequently from either the Medical School or the Law School in Harvard University. He concluded that their undergraduate achievements in Harvard College were fairly predictive of the rank of the same students in the professional school. He concluded that:

The men who are destined to take the highest rank in the law and medical schools are markedly better scholars, both in the preparatory schools and in college, than their fellows. In intellectual power, as in other things, the boy is father to the man.

All the studies that have been made completely discount the usual college idea that what is done in high school and college is in no way prophetic of what will be accomplished afterward. When students loaf along in college they say they will show the world when they leave college and its uninteresting artificial tasks. The general records, however, show pretty clearly that those who loaf in college and dissipate their energies loaf along and dissipate their energies later in life. The pace which a boy sets for himself in high school and college determines rather closely the pace at which he will travel as a man.

Doctor Foster when President of Reed College published a little book on *Should Students Study?* He showed very conclusively that there is a very definite prophetic value in the kind of record which any student establishes.

We may take, for example, all the students who graduated from Harvard College during a period of twelve years and entered the Harvard Medical School. Of the 239 who received no distinction as undergraduates, 36 per cent graduated with honor from the Medical School. Of the 41 who received degrees of A.B. with high honor, more than 92 per cent took their medical degrees with honor.

Still more conclusive are the records of the graduates of Harvard College who, during a period of twenty years, entered the Harvard Law School. Of those who graduated from college with no special honor, only six and one-half per cent attained distinction in the Law School. Of those who graduated with honor from the college, 22 per cent attained distinction in the Law School; of those who graduated with great honor, 40 per cent; and of those who graduated with highest honor, 60 per cent. Sixty per cent! Bear that figure in mind a moment, while we consider the 340 who enter college "with conditions"—that is to say, without having passed all their entrance examinations—and graduated from college with plain degrees. Of these men, not 3 per cent won honor degrees in law. . . .¹

The coefficients found in the most important studies of the correlation between pupils' achievement marks in the elementary school and in the high school have been assembled in the accompanying table (XXII). Similarly the coefficients of correlation between intelligence scores and high school marks are shown in the same table. Most of the figures have been tabulated by Symonds.²

The foregoing and other statistics of correlation lead to the conclusion that while the intelligence tests furnish a

¹ Foster, William Trufant, *Should Students Study?* Harper and Brothers, 1917

² Symonds, Percival M., *Measurement in Secondary Education*, p. 339

rough and comparatively rapid method of predicting scholastic success they are by no means exact and final. Much as teachers' marks have been lampooned because of asserted inexactness they still seem to be the most exact predicting

TABLE XXII

CORRELATION BETWEEN (A) ELEMENTARY SCHOOL MARKS,
(B) INTELLIGENCE SCORES AND HIGH SCHOOL MARKS

Investigator	Elementary School Marks	Intelligence Tests
Dearborn	.80*	
Miles	.71	
Kelley	.789	
Fretwell	.49	
Ross	.64	.37
Flemming		.51
Proctor		.52 (Binet)
Proctor		.38 (Group)
Jordan		.48
Jordan's summary		.48
Average	.686	.456

*First year in high school with the entire high school course

single measure of future scholastic success. This probably holds true with reference to later success in life. Symonds writes:

Intelligence tests are better than separate tests of elementary school subjects as predictors of high school success, but are not so good as elementary school marks. . . Elementary school marks vary in their predictive ability. If all of the pupils came from the same teacher, the prediction is very high (.80); if from the same school, the prediction is somewhat lower (.70-80); if from the same school system more or less homogeneously administered, the prediction of elementary school marks is about .65. Where the pupils come from a variety of elementary schools the predictive value of elementary school marks is much lower. Taking the normal situation school marks are preferable to tests (intelligence) for prediction of success in high school.¹

¹ Symonds, Percival M., *Measurement in Secondary Education*, p. 400

Symonds also dispels the notion recently exploited that teachers' estimates of ability are worthless. He says:

Ratings of character and ability qualities have been found to give high correlations by Kelley and Flemming. Kelley found that teachers' estimates of intellectual ability correlated with school marks .72, and Flemming found .80 and .70 respectively in the junior and senior high school. Character qualities correlated slightly less.¹

In his evaluation of the predictive value of intelligence tests in relation to high school work Symonds writes:

Intelligence tests probably predict better than separate subject-matter tests because they are more comprehensive. Fretwell found that a battery of subject-matter and psychological tests gave a better prediction (.56) than is usually found with intelligence tests alone (.48). . . .

It may be concluded that no single answer can be given as to the predictive power of intelligence tests. It all depends on the test. A short, easy test like Army Alpha gives definitely poorer prediction than either school marks or subject-matter examinations. A longer and harder examination like the Thorndike Examination or the American Council tests compares well with school marks as a basis of prediction and is safely superior to subject-matter examinations.²

Gordon and Baker's study under Pillsbury's direction at the University of Michigan showed that the correlation between the results of intelligence tests and college grades of forty-four college students were not high enough to be significant.³ Of course, this may be entirely due to faulty grading of the academic subjects. Dickson says:

A high test score, however, does not necessarily mean that the pupil will do good work in school. He may be lazy, lack interest,

¹ Op. cit., p. 400

² Op. cit., p. 400

³ "Intelligence Tests and Academic Standing." *Journal of Applied Psychology*, 4: 361-3, Dec., 1920

or be in love. A dozen things may tend to interfere with his using the mental capacity he actually possesses. . . . Sometimes a pupil who makes a low score has such industry and interest in school work that he succeeds better than those who are brighter but less faithful.¹

5. CORRELATION BETWEEN INTELLIGENCE SCORES AND SUCCESS IN COLLEGE

Widespread use of intelligence tests in higher institutions. Recently many colleges and universities have administered intelligence tests to entering students. Naturally they have tried a great variety of tests. That is the only way to discover ultimately the best test. Unfortunately, however, the variety is so great as to decrease their comparative value. Toops reports² that "The Median validity quotient of forty-three colleges which report their validity coefficients is .46."

Tabular resumé by Symonds. The following table of average coefficients of intelligence tests with college marks has been compiled by Symonds.³

TABLE XXIII
AVERAGE CORRELATION OF VARIOUS INTELLIGENCE
TESTS WITH COLLEGE MARKS

Test	Jordan	MacPhail	Toops
Thorndike Intelligence Test for High School Graduates		.50	.52-.55
Brown		.47	.40-.43
Thurstone		.33	.40
Otis			.44
Terman		.48	.44-.47
Army Alpha	.415	.39	.40

¹ "The Use of Group Mental Tests in the Guidance of Eighth Grade and High School Pupils." *Journal of Educational Research*, 2: 601-610, October, 1920

² Toops, H. A. "The Status of Intelligence Tests in 1923-1924." *Journal of Educational Psychology* (January, February, 1926), 17: 23-26, 110-124

³ Op. cit., p. 419

General interest in the problems of intelligence. During the last two decades with the rapid growth of high schools and colleges there has been a great deal of discussion concerning the abilities of pupils who have thronged the secondary and higher educational institutions. While the institutions were small it was generally assumed that practically all who presented themselves for admission were sufficiently equipped with native ability to pursue the courses successfully. If any failed in the entrance examinations or did not succeed after gaining entrance it was generally assumed that their preparation had been faulty. But with the spread of the accredited system of admission to college, the better economic conditions and the consequent phenomenal increase of high school and college enrollments many began to wonder if the level of mental ability of the students had not become alarmingly lowered.

There has been much discussion regarding methods of admission to college. Many college professors and presidents believe that the accredited system whereby students are accepted on their high-school certificate of graduation is unsatisfactory. They think that much poor material gets into college by that method. It has often been proposed to substitute intelligence tests for the accredited high-school certificate. It is important to know what value intelligence tests have for predicting success in study.

Investigations by Colvin and McPhail. Colvin and McPhail¹ made a study of the intelligence of about one-fifth of all the seniors in the representative public schools of Massachusetts. These included a total of 3,333 pupils, 1,262 boys and 2,071 girls. The tests were specially devised.

¹ Colvin, Stephen S. and McPhail, Andrew H. "Intelligence of Seniors in the High Schools of Massachusetts." U. S. Bureau of Education, *Bulletin*, 1924, No. 9

by Dr. Colvin and Dr. McPhail and known as the Brown University psychological examination. This test had previously been given to about 1,800 Brown students, and the results analyzed from the standpoint of the correlation between the intelligence test results and ability to succeed in Brown University. The conclusion had been reached that students securing below a certain rating (46 points out of a possible 89) were not good college risks, that is, not likely to succeed in college work. Colvin and McPhail make the following conclusion:

When we compare the scores obtained by the Massachusetts seniors in the Brown tests with the above criteria, we find the following facts: 40 per cent of the boys and nearly 60 per cent of the girls are bad college risks, while less than 40 per cent of the boys and only 22 per cent of the girls are good risks.

Investigation by Roberts and Bolton. An extensive investigation was made in 1924, under my direction by one of my students, Dr. Alexander C. Roberts, of certain phases of the relation between intelligence ratings and scholarship records. A study was made of 581 students in the University of Washington who were in the lowest fifteen per cent, judged by their intelligence scores. Their complete high-school and University scholarship records were compared with their intelligence scores made on tests given by the Department of Psychology of the University at the time of entrance. According to the University classification the E group included the lowest five per cent on the intelligence test and the D group the next higher ten per cent.¹

Of the 581 students judged on the basis of the intelligence tests to be of too low mental ability to do satisfactory col-

¹ Roberts, Alexander Crippen, *Studies in Matriculation Statistics, Intelligence Ratings and Scholarship Records at the University of Washington*. University of Washington Press, Seattle, 1924

lege (or high-school) work, 50.1 per cent actually made satisfactory records in the University, some of them graduating with entirely creditable records. The other 49.9 per cent failed in so much of their University work as to be dropped from the University. One question then is, Was the University justified in giving them all a chance and salvaging half of them to society? They were all graduates from accredited high schools and were recommended for admission to the University. They were certainly not very promising students and the probability of success was against them. If we were only certain that their intelligence had been accurately and completely measured we might feel greater justification of excluding on the basis of the intelligence test. We are not at all certain either that mental inability was the cause of their failure in the University. They may have had to work on the side for a living, they may not have been interested, they may have selected work not adapted to their types of ability, they may have loafed, they may even have had poor instructors.

Because of the significance of such a study from an administrative point of view and because of its bearings upon the whole problem of secondary and higher education from the standpoint of society rather extended quotations are included here.

Application of the intelligence test. In order to show exactly how these students fared, the records of ten typical cases of students with D and E intelligence scores are presented in the tabular statement on page 227.

Roberts says:

It will be noted that no student failed in any subject either in high school or in the University. The average record both in high school and University is a strong *A* and *B* or *A*, *B*, and *C*

record. Especially high quality records were made by Nos. 2 and 6 in high school and by Nos. 6 and 10 in the University. The achievement of all these students may be due to high motives and character traits in overcoming the handicap of *E* intelligence.

TABLE XXIV

THE COMPLETE HIGH SCHOOL AND UNIVERSITY MARKS OF TEN *E* STUDENTS WHICH RAISE A QUESTION AS TO THE RELIABILITY OF THE INTELLIGENCE RATING¹

No.	HIGH SCHOOL RECORD					Number of Quarters Enrolled	UNIVERSITY RECORD					
	Number of Units of the Various Grades						Number of Hours of the Various Grades					
	A	B	C	D	Fail- ures		A	B	C	D	E	W
1	0	10½	7½	0	0	5	0	14	43	13	0	2
2	14	0	4	0	0	3	0	21	22	3	0	0
3	5½	10½	1½	0	0	6	6	30	48	0	0	0
4	3	4½	7½	2	0	6	24	45	23	0	0	0
5	1	10	5½	0	0	3	0	10	15	15	0	3
6	13½	0	3	0	0	3	42	3	0	0	0	0
7	0	14½	1	½	0	5	11	26	38	8	0	0
8	1	14	0	1	0	5	5	29	34	0	0	0
9	1½	8½	4	3	0	1	0	0	15	0	0	0
10	1½	6½	4	1	0	4	24½	24½	13	6	0	0
Totals	41	79	38	7½	0	41	112½	202½	249	45	0	5
Average	4.1	7.9	3.8	.75	0	4.1	11.25	20.25	25	4.5	0	.5
Average per quarter.....							2.74	4.94	6.1	1.1	0	.12

Further study may reveal that in some instances the intelligence ratings are too low.

A few individual cases are chosen for citation because they show so strikingly what some students may do even though their intelligence record seems to warrant consigning them to the scrap heap. In some cases their high school record is also against them,

¹ Loc. cit., p. 36

but still they succeed in college. In general, as shown elsewhere, their high school record has predictive value. . . .

A woman with *E* intelligence score and a fair high school record, spent four years at the University and was graduated with credit. In the first two years, she accumulated 41 hours of *D* and 25 hours of *E* marks, together with sorority membership, a "*W*" book filled with dance programs, and memories of a glorious time. In the last two years, she earned fifty-eight hours of *B*, forty-three hours of *C*, and three hours of *D* credit. During the junior and senior years, she carried from fifteen to nineteen hours each quarter, and inquiry developed that she was faithful, painstaking, and conscientious in the highest degree.

A man with a *D* score had a high school record of five *A*'s, five and one-half *C*'s, and three and one-half *D*'s. In eleven quarters he had passed from complete failure to honor grades, and is still in the University and doing well. His first quarter brought him fifteen *E*'s, and the second ten *C*'s and five *D*'s, the third five *B*'s, five *C*'s, and five *D*'s. In the tenth quarter his pace had increased to eight *A*'s and five *C*'s, and in the eleventh, to eight *A*'s and five *B*'s.¹

A general summary was furnished me by Dr. Roberts before the monograph went to press. It is especially adapted to inclusion here although the points made are in different form in the monograph.

This study leads conclusively to the fact that no one measure of student ability is adequate in prognosis of academic success at the university. The high school scholarship record is the best single measure, but various studies indicate that the high school record is far from accurate as a sole basis of prediction. A progressive scheme of intelligence testing is at present the best supplement to the scholarship record. This study of 581 *D* and *E* students, the lowest fifteen per cent in the intelligence ratings at the university, shows that the *D* and *E* students have exactly five and one-half times the probability of failure than has the student from the groups above. Furthermore any adequate system of admission must attempt to secure a reliable estimation

¹ Loc. cit., p. 32

of character traits,—ambition, perseverance, determination, optimism, idealism, etc., for we have found plain inferences that highly desirable character traits carry many mediocre students to scholastic success and undesirable character traits wreck the accomplishments of brilliant students.

6. NEW RELIANCE UPON TEACHERS' MARKS

Starch and Elliott discount reliability. During the last few years a great deal has been written and more expressed orally regarding the unreliability of grades assigned by teachers to pupils' examination papers. Starch was the first one to command attention to the variability of marks assigned by different teachers to a given examination paper. He wrote:

The manner in which marks are distributed to pupils varies enormously from teacher to teacher and from school to school. No one realized the seriousness of the situation until specific tabulations and comparisons were made. . . . A more direct and crucial method of examining the variations of teachers' marks than the tabulation of the grades as distributed by different teachers is to measure experimentally the differences in the values assigned by different teachers to the same pieces of work.¹

Many studies emphasize reliability of teachers' marks. In the preceding investigations mentioned, it has been shown clearly that teachers' marks have a rather high degree of reliability. As Symonds points out, where the same teacher assigns all the marks the predictive value of future scholastic success is very high (.80). When they are given by different teachers in the same system the predictive value is still high (.70-.80). Even when they are gathered promiscuously from various teachers in different systems the coefficient of correlation is still higher than with intelligence tests. The average coefficient of correlation between elementary

¹ Starch, Daniel, *Educational Psychology*, p. 426

school marks and high-school marks is slightly less than .70, while between intelligence scores and high-school marks it is about .45.

The investigations by Dearborn, Miles, and Smith, emphasized the same interpretation. Lowell's study and Foster's study, while not computed in terms of correlation coefficients, point to the same conclusion. Roberts very definitely concludes that the school achievement records provide the best single measure of prediction regarding future scholastic endeavor.

Bolton's investigation in Seattle. On the basis of Starch's conclusions similar tests have been made a good many times. A given examination paper is selected and duplicates mimeographed. The duplicates are then distributed to a heterogeneous group. Sometimes this group is a teachers' institute, and the assumption is made that here is a quite homogeneous group—all teachers. But it should be remembered that they are of all ages, from eighteen to sometimes eighty. They vary in experience; their everyday work may vary from teaching beginners to read, to administering a school system with a hundred teachers; some teach one subject, some many subjects, some have had real professional training, some absolutely none. Possibly not one-tenth of those marking the paper have had experience in marking papers in that subject, and many are so rusty in the facts of that subject as not to know the answers to the questions themselves. In the group probably only a small proportion are teaching that particular subject. None in the group know the exact conditions leading up to the examination nor the conditions under which the examination is given. No one of the markers has any interest in the justice of the marks such as there would be if one's grade, given to a pupil, should be scrutinized by the pupil and challenged if it is not reasonably accurate. Doubtless under such conditions many would make poor guesses or mark very carelessly. Is it any wonder that variations in the marks assigned should appear?

The writer has been very skeptical regarding the conclusions drawn from such procedure and recently devised an experiment

to test the validity of the conclusion that there is no reliance to be placed upon teachers' marks. An attempt was made to secure everyday work and to have teachers feel a certain responsibility for the grades assigned. Teachers giving instruction in the content of the examination were purposely selected instead of a heterogeneous group.

Through the coöperation of Assistant Superintendent Willard and twenty-two teachers in the Seattle schools, the study was made possible. A set of examination questions was made by a group of teachers in the sixth grade upon arithmetic work that they were actually teaching to their classes. The teachers were asked to construct a set of questions that would fairly test their pupils for promotion upon the given portion of the work covered.

Each teacher was asked to grade all of the papers, placing the marks upon the tabulation sheet and not upon the examination paper. They were sent in turn to each of the teachers who marked each answer.

A glance at the distribution table of variations from the average, discredits entirely the assertion that there is no uniformity in marks. Out of 526 ratings of the twenty-four papers as a whole, 451 or approximately eighty-six per cent vary not more than ten per cent; over ninety-four per cent vary fifteen per cent or less, leaving only six per cent with any considerable variation. Approximately sixty-one per cent vary five per cent or less, and nearly seventy-five per cent vary seven per cent or less. In fact, over one per cent show no variation, about sixteen per cent vary one per cent or less, thirty-one per cent vary two per cent or less, nearly fifty per cent vary three per cent or less, nearly fifty-six per cent vary four per cent or less and sixty-one per cent depart only five per cent or less. The average of all variations of 526 ratings is only 5.1 per cent. . . . Note the number of cases (72) in which the deviation was less than one per cent; 148 cases less than two per cent; 235 cases less than three per cent, etc. . . .

After the study of the grades as a whole was made three papers were then selected at random and all the grades for each of the ten questions were assembled. . . . This was done for the purpose of examining the grades assigned to individual problems.

Two of the papers happen to be from among the very good ones and the third is one of the very poor ones. Inspection of the table reveals remarkable uniformity in the rating of each question by the different teachers. In nine cases out of thirty complete sets of answers, all teachers agreed upon all of the answers.

In 198 out of 660 ratings of the individual questions of these three papers there was complete agreement. In 286 other individual ratings there were only thirty variants and those in most cases of very small amounts, in fact, averaging only four points in each case. These, spread over the 286 judgments involving 2860 points, mean that there was a variation of only .54 per cent. Most of the variation is therefore seen to be in a relatively small number of cases. . . .

Even Starch's investigation does not show a very wide deviation. As a matter of fact, barring two papers, the marks were very uniform indeed. The average mean variation on all the papers was only 5.3 per cent; with the two extreme ones omitted the average mean variation was only 3.99 per cent. In either case it is the uniformity that is striking and not the dissimilarity. The greatest single variation was 32.6 per cent, one other was 26.6 per cent, another 24.1 per cent. Remember, however, that these are only three grades out of a hundred. In three cases the marks did not vary at all from the median, in fourteen cases less than one per cent; in thirteen cases only from one per cent to two per cent; in twelve more cases only from two per cent to three per cent; in ten more only three per cent to four per cent; in nine more only from four per cent to five per cent. In fact in sixty-three per cent of cases the variation from the mean was five per cent or less, and in eighty-three per cent of cases it was less than ten per cent.

An examination of all the marks assigned reveals the fact that all the variations greater than thirteen points were given by one instructor. His marks were in every case below the median, an average of 13.2 points below the median for all of the ten papers. Of the total of 514.7 points of deviation this instructor (No. 5) gave 132.3 points, one-fourth of all.¹

In all probability there is sufficient reliability in teachers'

¹ Bolton, Frederick E. "Do Teachers' Marks Vary as Much as Supposed?" *Education* (September, 1927)

marks to justify their continued use as a means of determining promotions in the grades or of graduation from the high school or college and for purposes of determining college entrance. When all the grades assigned to a pupil at all times in a given subject, and all the grades given by the different teachers in the pupil's school career are massed and a composite rating is secured undoubtedly it represents quite fairly the pupil's past performance. Incidentally other studies go to show that such a composite is fairly prophetic of future accomplishment. Roberts' investigation, those made by Miles and Smith, and those reported by Symonds all corroborate the foregoing interpretations. Symonds' specific summaries emphasize the same conclusion.

7. LIMITATIONS OF INTELLIGENCE TESTS

Widespread belief in tests. The last decade has witnessed an almost pathetic reverence for intelligence testing. The World War created a necessity for sorting men quickly into occupational groups. The psychologists saw their rightful chance and used it advantageously. They were highly successful in classifying men roughly and quickly on the basis of intellectual levels. They were able to segregate officer material from soldiers who had little possibility of developing qualities of leadership or technical skill. So successful were the psychologists in discovering and classifying human mentality that they and others said, "Why not apply the same methods to peace-time problems?" Their success had been so great and so convincing and scientific inventions were so marvelous that people, especially in the aftermath of war emotionalism, were ready to believe almost anything regarding the realm of mind as in the realm of matter. Darius Green's flying machine had become a reality. Why not some uncanny wizardry of

measuring mind as easily as matter? Had not Thorndike said, "Everything that exists, exists in some amount; and anything that exists in some amount can be measured if the appropriate yard-stick can be found"? Well, the yard-stick had apparently been found, and it was assumed that anybody could apply it as easily as a carpenter's foot-rule.

Consequently there has been a wholesale application of various intelligence tests to measuring and classifying school children and employees in the industries. Not only have scientific psychologists made innumerable measurements, but quacks and charlatans have reaped stupendous harvests through their lectures on "characterology," "how to be successful in business, love and marriage," "how to dominate all others," "how to master public speaking in ten lessons." Millions of hard-earned dollars find their pockets annually.

At the same time that we recognize the valuable contributions of the intelligence tests we should recognize their limitations. There is no wizardry in them. No individual test is final, much less the group tests. They are valuable as a means of prognosis and also of checking and confirming what common sense observation and the various achievement tests in subject matter may disclose. As pointed out before, they are not as accurate in predictive value as the everyday school-room procedures.

Growing recognition of limitations. There is abundant evidence that many are coming to recognize the limitations of the present intelligence tests. It is clearly seen that they are crude and measure only a limited phase of mental life. They in no way test the emotions, will power, moral qualities, leadership, mechanical ability, or various other aspects of mental life, all of which are as important as intellectual ability to acquire academic knowledge. A few quotations will be reproduced to support the foregoing interpretation.

Dr. Stenquist, Director of the Bureau of Research, Baltimore, has been most outspoken in his belief of the narrowness of the intelligence tests. Recently he wrote the following:

Cases in which illustrious (not to include merely successful) men and women, were, while in school, diagnosed as failures by their teachers have often been cited. Many of the men and women, who later became world authorities in their fields were called at best but mediocre. . . . Many men who today are national or world figures but who had a poor school record, could be cited. Granting that these men constitute but a minority—and granting also a certain tendency to exaggeration in biographers who love contrast—these cases are still too numerous and important to be ignored. The fundamental fact remains that the abilities of many pupils are widely misjudged in school. Their abilities are either unperceived or misunderstood because of arrested development, poorly suited courses, stereotyped curricula, or general lack of sufficiently broad means for estimating ability. . . .

But is it not a loose use of terms that permits us to use the name “general” intelligence to designate mental traits which are painstakingly limited to the literary-academic tasks of our present intelligence tests? Are we not misleading when we say that he, and (in effect) *only* he has general intelligence, who, with paper and pencil, can effectively do such things as, solve simple problems in arithmetic; state the opposite for each of a list of words; insert a number of deleted words in sentences; arrange words in certain logical relationships; decide whether a given number or word is identical with another; write the seventh letter of the alphabet; arrange a jumble of words to form meaningful sentences; make a cross that “shall be in the circle but not in the triangle or square”; state which day comes before Sunday; write whether a sentinel should be trustworthy; indicate whether alliteration is a form of pentameter; show whether cessation of belligerency is ever desirable; declare “what one should do if it is raining when he starts to school”; repeat “We are having a fine time. We found a little mouse in the trap”; repeat “3-1-7-5-9”; give the greatest possible number of words in one minute which rhyme

with "day," or any combination of such tasks that may occupy the thirty to forty-five minutes given to an average present-day intelligence test!

What sort of mentality has the individual who makes a low score in such tasks but who, when he drops out of school, has the ability to organize a gang that is all but undissolvable? Or he who drops out of school and builds up a world-wide business on the identical ground where "brighter" men have failed? Or one who wrests from a Robinson Crusoe situation a triumphant career? Or even he who can start a balking automobile abandoned by "superior" persons—men of higher I.Q.'s? Or what shall we say for the lamented low intelligence of the New York boy who escaped from an institution for mental defectives and who before the authorities recaptured him had obtained and was holding a job paying him \$37 per week as a foreman in a blacksmith shop?

To say that there are but few such cases is untrue. Even though the illustrious cases do constitute but a minority, who shall estimate how many more of that large percentage who drop out of school because it is unsuited to their needs would develop careers of marked usefulness, if their real abilities were discovered and trained? . . .

As a matter of fact, it seems clear that intelligence may be of many kinds. Thus, for example, the campaign manager exhibits a quality differing sharply from that of the locomotive engineer; while the kind of intelligence required to lay out the construction work of a Woolworth Building is not very like that needed to write a forceful letter, and this in turn is not very like that employed in painting a great picture, or inventing a great machine such as the modern linotype.¹

Trabue in an extended and searching analysis of intelligence tests says:

As teachers, we tend to think of intelligence in the rather narrow terms of school success. The child who prepares his lessons easily and well is "intelligent." The one who has difficulty in understanding words, symbols, and complex ideas is "rather

¹ Stenquist, John L. "Need for Broader Definition of General Intelligence," *Baltimore Bulletin of Education*, June, 1928

stupid." Practically all of the present intelligence tests are built on the assumption that success in school work is only another measure of intelligence. The pupils who make high scores on the intelligence tests are the ones who enjoy and can easily master the books and abstract ideas offered in the schools.

I know of a woman, forty years of age, whose rating on the intelligence tests is about the equivalent to that of a fourth-grade school pupil. In actual fact she gave up school work when she had reached the fifth grade, because she did not care for the things she was learning. She is now a successful American business woman, in spite of having been left alone in the world with no money and with an I.Q. of not more than 75. At the present time she is the owner and manager of a small factory. For several years she was the housekeeper at one of the finest Fifth Avenue hotels, where she successfully directed the work of a corps of approximately fifty maids, three carpenters, two decorators and a plumber. In spite of the evidence of the tests, I insist that she is intelligent. It is certainly a mistake to claim that the group tests used in our schools are measures of general intelligence.¹

It is well to consider how intelligence testing may work out in a practical way in an actual school system. Such a side light comes from one of our large cities. The official bulletin from that city editorially admonishes that:

Although sufficiently tried to indicate beyond doubt its vast potential value to the teachers and children, intelligence testing, as it is unfortunately called, is as yet in its early and imperfect stage. Every teacher who has seen the tests applied to her pupils has had the suspicion or the knowledge that the results in individual cases have not been correctly interpreted.

One of many instances: The brightest child in a Cleveland high school was suffering from an ulcerated tooth when his intelligence was tested. He made a very low score. The teacher *knew* the result of that test was wrong, that application of it would be absurd and unjust. . . . One grave danger lies in the very name, "*intelligence test*." It is an unfortunate name at best. Parents

¹ Trabue, M. R. "Some Pitfalls in the Administrative Use of Intelligence Tests," *Journal of Educational Research* (June, 1922), pp. 2-9

of the so-called superior children are delighted to have their children thus classified. Such delight is not likely to be evinced by the parents of the ninety or ninety-five per cent who are not superior, and many of the children themselves are likely to become discouraged.¹

Bagley's statement is well-known in which he declares:

The use of mental tests on a wide scale to group individuals during childhood and youth in a way that will "load the dice" as to future occupation, opportunity, mode of life or social status is to be condemned: (a) Because of the present uncertainty regarding the accuracy of the tests as measures of innate mentality. (b) Because of the prevailing uncertainty (not to say profound ignorance) concerning the part played by innate mentality as compared with other presumably innate factors in determining achievement.²

Dr. Arthur Klein, Specialist in Higher Education in the United States Bureau of Education, recently said:

A study made in the University of Minnesota indicates that the psychological method of testing is less reliable than high-school records in prognosticating future work. Mental testing has made enormous strides since the Army tests were applied to so many young Americans, and institutions have attempted to make greater use of them for such rating of students as is implied in the plan for sectioning classes. The results have not been so satisfactory as the friends of psychological testing would desire. Toops and Bridges assert that to be valuable, the correlation between test and scholastic record must be between 0.70 and 0.80. No such high correlation has been obtained. Many authorities seem to doubt whether the mental tests have a higher predictive value than other criteria. In a study made in the public schools it was found that the correlation between public-school teachers' ranking and subsequent work of students was 0.70 or above, which is higher than has been obtained to date between the mental tests and students' work.

¹ *School Topics*, Cleveland, Ohio, November, 1927

² Bagley, W. C., *School and Society*, March 24, 1923

President Coffman, of the University of Minnesota, makes a statement which perhaps represents with considerable justice the present attitude toward the tests: "I would not for a minute speak disrespectfully of intelligence testing, but those who are the members of this cult have in some instances claimed that by a series of intelligence tests it is possible for them to determine in a few minutes of time what students can profit by a university and even what vocations they should follow. The conclusion stated somewhat humorously, is that because of innate perversity or obstinacy of mind many of us are not entirely convinced."¹

8. WHO SHOULD GO TO HIGH SCHOOL AND COLLEGE?

Tendency toward social stratification. There has always been a tendency on the part of the educated to regard those who are uneducated as of a lower mental calibre than themselves, as in all society there has ever been a tendency toward stratification. In earliest times it differentiated the nobility and the serfs, the brahmans and the low caste; in later times the rich and the poor; and since the spread of learning the educated have rather regarded themselves as belonging to an intellectual aristocracy entitling them to hold themselves aloof from those considered on a lower level of ability. It is therefore natural that with the onrush of hordes to college from homes of poverty and illiteracy that the intelligentsia should look with suspicion on the mental ability of the invaders.

European education aristocratic. In Europe, naturally, these suspicious attitudes have been much exaggerated. With the social and economic stratification always present in monarchical countries, higher education has always been considered as the right and privilege of the classes instead of for the masses. Children born in a certain social or

¹ Klein, Arthur. "Freshman Problems are the Most Difficult that Colleges Must Meet," *School Life*, Vol. XII, October, 1926

economic stratum have been expected to accept that as final and without question as a divine dispensation. In Europe they have long purposely made higher education difficult to obtain. They have designedly made tuitions high, examinations rigid, and costs prohibitive for any except the elect. They have purposely limited the number of candidates in training to the number of positions usually governmental. They have for generations sounded an alarm concerning the overcrowded professions.

In a recent publication¹ appears the startling headline: "Excess University Graduates in European Countries." Then follows the statement that:

The number of students attending the universities in Europe has grown with remarkable rapidity since the War in almost all European countries. Whatever may have been the experience of Europe since the War politically, there can be no question that educationally its experience has been in the direction of democratization. The day is over when university education was practically a monopoly of the privileged classes. The sons and daughters of people that hitherto never aspired to university education ardently wish to attend now. The increase in numbers has, in fact, given rise to considerable alarm, the fear being expressed that the supply of university graduates, already in some countries in excess of the demand or the need, may result in the growth of a discontented educational proletariat. . . . What the alarmist fears is that, with the great increase of university graduates, there will then be no possible chance of their absorption by the social whole.

American alarmists cry over-education. Now, we begin to hear the same cry in the United States. We read that the professions are becoming overcrowded, that there are too many in the white-collar jobs, that the country is being

¹ *News Bulletin of the Institute of International Education*, November, 1928

menaced by armies of unemployed who have been thrown out of work by the introduction of high-powered machinery; that there will soon be droves of lawyers, doctors, engineers, authors, teachers, who are penniless, hungry, and walking the streets trying to find work, all due to the overcrowding of the professions and to the universal education of the masses away from fundamental types of labor.

Then, too, we continually hear that soon education will become such a burden that governments will break down under the burden. When all demand elementary, high school and college education, the public will not be able to pay the enormous bills entailed. These complaints usually come from those connected with privately endowed higher educational institutions and not from those engaged in public education.

In the United States the press, including the daily newspaper, the educational periodicals, and the popular magazines, are full of articles warning that too many are going to college. From the educational platform the cry of alarm is also being continually sounded. It generally comes from college presidents and trustees who find their financial resources absorbed by the increasing masses who knock at the doors of the educational institutions. It is interesting to recall the cry for more students that was continually heralded only a decade ago. Now the headlines are "Too many students in college." "The institutions are crowded with incompetents." "Raising the standards to bar the mentally deficient." "How shall we eliminate the low grade?" "Bright retarded by the dull."

One of the recent and most often quoted addresses is that by President Hopkins of Dartmouth. The two phrases which have caused widest comment are "Too many men

are going to college" and "There is such a thing as an aristocracy of brains." President Faunce of Brown University said that about half of all in college ought not to be there, largely because of mental incompetence.

A widely quoted 1928 book¹ represents the extreme interpretation that is being placed upon recent trends in high school and college attendance. President Glenn Frank in one of his syndicated recent daily paragraphs epitomized the contents of the book. How much of approval by him is carried with the re-publication is not indicated in the resumé. However, the very fact that it is broadcasted without objection or criticism is very significant. President Frank's dramatic journalistic analysis of the book will cause it to be read—and believed—by thousands who otherwise would never have heard of the book. Excerpts from the digest as published by President Frank are reproduced, not for the purpose of endorsement but in order that we may understand what many are predicting.

Mr. Pitkin predicts a time when we shall have a vast proletariat of educated men and women, a vast mass of "Best Minds" out of a job.

We are yearly making more elaborate our nationwide school system that seeks to turn its millions of students into Best Minds, into men and women of educated outlook and objectives.

We are yearly perfecting an industrial system that seeks to get its work done with the fewest possible men and women, and with the least expensive men and women.

In other words, our educational system is increasing the number of educated men and women, while our industrial system is decreasing the number of jobs that require educated men and women.

We are, he thinks, headed toward a time when the country will be infested with an army of hoboes who are high-brows.²

¹ Pitkin, Walter B., *The Twilight of the American Mind*, 1928

² Frank, Glenn, "High-Brow Tramps." Syndicated Article, *Seattle Times*

9. IS THE INTELLIGENCE OF HIGH-SCHOOL PUPILS BECOMING LOWER?

As the high schools and colleges have become congested with numbers during the last two decades a great deal has been said intimating that the ability levels as a whole have been greatly lowered. There is a tacit assumption that the added throngs have been recruited from social strata which formerly could not have gained entrance to secondary and higher institutions because of inferior ability. It is true that new social strata have furnished large numbers of the new comers. Formerly the majority of high-school and college students came from the families representing the professions of law, medicine, ministry and teaching, and from well-to-do families of tradesmen, manufacturers, rail-rovers, and others. But very few came from the farms, the workshops, and from the families of day laborers. Now, of course, the democratic high school numbers among its pupils children from homes, representing every conceivable occupation. Not only are the professions represented, but also every industrial enterprise. There are children from the homes of affluence and also from the homes of most abject poverty. We may easily discover the sons of governors of states, United States supreme court judges and even of presidents of the United States sitting side by side and touching elbows with the sons of their gardeners, janitors, or chauffeurs. The English Mosely Commission were amazed to see Kermit Roosevelt sitting in the same seat with the son of Roosevelt's coachman.

Is the frequent assumption true that the children of the lower social and economic strata are less well endowed with brains and ability than those more fortunately situated? We may at least inquire how long the families of wealth

and position have had those distinctions. In this democracy there have been some surprisingly sudden emergences from poverty to wealth, from obscurity to prominence. The rise of men like Franklin, Lincoln, Garfield, Edison, Henry Ford, Steinmetz, Herbert Hoover, and a vast army of others give credence to the idea that there may be vast resources of genuine ability among the obscure and low families of our realm. Is it true that the standards were so high formerly that the children of only certain selected classes were admitted or were they barred (1) by economic pressure, (2) by distance from school as in the case of the farmer, or (3) by lack of stimulus in their meager social surroundings?

Now compulsory school laws require attendance at school until well on in the early adolescent years, the years when social stimuli become so effective. The youth glimpses new meanings and new possibilities and sees new significance in education, and makes determinations for himself to continue his education. With the advent of the automobile, the daily newspaper and the radio, no one but a half-wit can remain uninformed regarding higher education. As a boy on an isolated farmstead in Wisconsin, I had never heard of a university up to the age of sixteen. Had I seen the bizarre caps of the freshmen and heard the rah rahs and witnessed the combats on the football field from the age of six to ten I should then have been wild to go to a university. All these stimuli are now beating upon the boy from the primary school on, even in the remote country districts, and what wonder that they pledge allegiance to some high school or college even before they outgrow knickers? Shall we believe that those who did not go to high school and college formerly were slow-witted and that their types are

now thronging the halls and campuses of our higher institutions of learning?

Number of low grade overestimated. It has become almost an obsession in many quarters to assume that the great majority of human beings are of such low mentality that they cannot profit by high school or college education. Bagley quotes from *The Torch*, London, 1922, the following:

Last month, Dean Inge of St. Paul's Cathedral, London, is reported by the newspapers to have said "Half of Britain's male population is mentally under the age of thirteen and therefore you cannot expect the nation to be well governed. Democracy will not be the final form of political evolution!"¹

Our own educational journals are full of discussions maintaining that higher education is a waste of time and money for all except a very few who are specially gifted. The same idea is heralded from the educational platforms. At a recent meeting of the Inland Empire Teachers' Association I heard an ex-state superintendent of public instruction say that from the pupils in the eighth grade a certain per cent should be culled out because of inability to do the first year of high school work; that a considerable number of the ninth grade could not do the tenth grade work; that a similar number would fail to complete the eleventh grade; that many of these could not master the last year of high school work. Again, not all of those who finish the high school have the ability to do college work. The number of incompetents in the grammar school and the high school is so alarmingly great, he said, that according to accurate mental tests only one-eighth of those in a grammar school are found with sufficiently high intelligence to do college work successfully!

¹ *Determinism in Education*, p. 13

This is certainly alarming, if true. There is, happily, no evidence of the truth of the assertion. Success in doing high-school work and college work by the standards maintained, show that the great majority of students can do the work if they will. Immediately after hearing the statement of the ex-state superintendent I inquired of a dean of men in a large university what per cent of students, in his judgment, failed to make good in the university because of lack of mental ability. Without hesitation he replied, "Not more than two per cent."

What should be the standard of intelligence sufficient for the completion of a high-school course? Should only the superior have that privilege? Plainly the citizen of average intelligence will bear the brunt of the tax burden in supporting high schools. Should they not have the privilege, nay, the right of its benefits? Is the public high school for scholars only or for the education of the mass of citizens? In the writer's judgment democracy demands that the institutions which they support shall be open to all citizens of average ability.

The same belief applies to college education. Colleges, state supported by the masses, are not for the benefit of selected classes only. The colleges paid for by the masses, mainly average-minded citizens, are for the purpose not of training specialists and scholars only, but for the purpose of raising the standard of social and civic intelligence to the highest possible level. It is possible, even probable, that for efficiency in the professions and in research work as represented in the graduate school those students with I.Q.'s below 100 could not succeed.

Our first problem, however, is to investigate much more extensively and thoroughly than we have done thus far,

to find out the levels and types of ability necessary for the successful pursuit of high-school and college work, professional training, and graduate research. Investigations thus far have been very meager and in limited types of ability. Subsequent research may disclose that other types of ability may have just as much social significance as those thus far measured.

Measuring instruments thus far devised are also very crude, and we are not at all sure that we have justly appraised the students who have been measured. We know that under different health conditions and in different moods and with different measures, pupils do not always get the same rating. Again, before deciding finally that individuals below a given I.Q., ninety for example, are unfit candidates for high-school graduation, should we not devote much more time to perfecting methods of teaching so as to be certain whether it is a pupil's low I.Q. or an inefficient teacher who is responsible. We already know that the correlation between so-called intelligence and school grades is low. We know that some pupils with rather low I.Q.'s do succeed in high school and in college as well, and that, on the other hand, some with high I.Q.'s do not succeed in high school, college, or out in life.

It is probable that we may feel some certainty, even with the crude methods available at the present time, regarding those with I.Q.'s below seventy but we had better not consign to outer darkness all those between seventy and ninety or even up to ninety-five. Give them a chance to try at least. The really best measure of ability to do a particular thing is the success attained in trying to master that particular thing. The best criterion of ability to do higher work of a given type thus far devised is not the intelligence

test, but the previous school record. The best criterion for determining entrance to the high school is the successful completion of the grammar school. The best criterion determining college entrance is the satisfactory completion of the high-school course.

It was clearly proven earlier in this chapter that the schools are not overburdened with incompetents. Not ten per cent of those who gain admission to the high school are below average in intelligence. Three-fourths of all high-school entrants are above average, and can do high-school work successfully. Two-thirds have I.Q.'s of 100 or above and should be able to do college work satisfactorily.

Should we not investigate to discover ways of salvaging some of the tremendous waste instead of trying to find ways of eliminating more from school and college? I have heard faculties spend much time in devising ways to eliminate the so-called incompetents, but never have I heard them spend a minute inquiring whether their teaching was efficient.

The public schools and universities are maintained by the tax payers as an insurance policy, to perpetuate good citizenship. Critical scholarship is not the sole, nor primary objective. What the people pay for they have a right to demand. If they seek a training in citizenship for all average citizens then they have a right to demand that the public high schools and public universities be available to all with average ability. If the doors are closed to all except the upper third or fourth, then those who pay the bills have a right to close their purse to higher education. That is just the attitude being taken by many tax payers whose sons and daughters have been denied their rights to higher education.

SELECTED REFERENCES

- BOOK, WILLIAM F. *The Intelligence of High School Seniors.* The Macmillan Company, 1922
- JORDAN, A. M. "Correlation of Four Intelligence Tests with Grades." *Journal of Educational Psychology* (Oct., 1922), 13: 419-429
- MACPHAIL, A. H. *Intelligence of College Students.* Warwick and York, 1924
- MILES, WALTER R. *Comparison of Elementary and High School Grades.* University of Iowa Studies in Education, Vol. I, No. 10, 1910
- PROCTOR, WILLIAM M. "Psychological Tests and Guidance of High School Pupils." *Journal of Educational Research Monographs*, No. 1, 1923
- PROCTOR, WILLIAM M. *Psychological Tests and Guidance of High School Pupils.* Public School Publishing Company, 1921
- ROBERTS, ALEXANDER C. *Studies in Matriculation Statistics, Intelligence Ratings and Scholarship Records at the University of Washington.* University of Washington Press, 1924
- SYMONDS, PERCIVAL M. *Measurement in Secondary Education*, Chapters 19, 20, 23. The Macmillan Company, 1927
- TERMAN, LEWIS M. *The Intelligence of School Children*, Chapter 6. Houghton Mifflin Company, 1919
- THORNDIKE, EDWARD LEE. "Intelligence Examinations for College Entrance." *Journal of Educational Research* (May, 1920), 1:329-337
- THURSTONE, L. L. "Psychological Tests for College Freshmen." *Educational Record* (Apr., Oct., 1925), 6:69-83; 282-294
- TOOPS, H. A. "The Status of University Intelligence Tests in 1923-1924." *Journal of Educational Psychology* (Jan., Feb., 1926), 17: 23-26; 110-124

CHAPTER XII

ADOLESCENT MENTAL DEVIATION AND EDUCATION

1. MEANING OF MENTAL DEVIATION

Purpose of the chapter. In this chapter a very brief and untechnical discussion of mental aberration in adolescence and the relation of education to (a) its development and (b) its prevention and treatment will be considered. The word insanity will appear frequently. No attempt will be made to give a scientific medical definition of the term. In fact, physicians themselves acknowledge that it is very difficult, if not impossible, to define it accurately.¹

Misconceptions regarding insanity. However, quibbling over the definition should be put aside for it is well known that there is a vast number of mentally ill persons who have some or many of the characteristics of what is conventionally called insanity. There are thousands in the hospitals and thousands more who are not able to serve society efficiently because of their psychological twists. It is coming to be recognized that they were not always afflicted, that their malady has come about from natural causes, and that they are not necessarily doomed to permanent disability and ostracism by society. It is also now known that most, if not all, were once normal and of good or even exceptional intelligence. The former idea that most cases of insanity were due to diseased nervous systems and

¹ See Church and Peterson, *Nervous and Mental Diseases*

heredity is being rapidly dispelled. When we become aware of the appalling numbers with distorted mental attitudes and come to realize that such aberrations may be the lot of any persons with the greatest probability that the brightest will be afflicted, we then become stirred up to find the means of prevention. When we realize that the school has a large responsibility in the matter we become aroused to greater attention to the mental hygiene of the school child. The period of adolescence is one of great concern in this connection because, as will be shown later, it is during adolescence that insanity most frequently outcrops. On the meaning of insanity Terman writes:

Sanity is a relative term. Where one becomes insane, a dozen develop harmful idiosyncracies, or a lack of that balance which characterizes the efficient, reliable, and responsible person.¹

Tentative definition of insanity. Myerson wrote:

When a man is asked to define insanity, he can only say "the state of being insane" or else "unsound mentally" neither of which means anything concrete. He may go on to speak of the symptoms of "insanity" such as delusions, hallucinations, emotional changes, etc., but finally he has to take refuge in the statement that there are many kinds of insanity, when he might better say there are many mental diseases, having totally different causes and different courses, and the main relationships which these diseases have one to the other is that *amongst* their symptoms are mental changes, which tradition and the law have labelled insanity.²

Why consider insanity in relation to education? On superficial thought one might raise the question as to why a discussion of insanity has any place in connection with a study of education. As a matter of fact, it is a major problem of public education. As shown below, most in-

¹ *Hygiene of the School Child*, p. 289

² *The Inheritance of Mental Diseases*, p. 13

sanity is of the functional type. Unfortunate thoughts and emotional experiences become obsessions and produce distortion of mind. It is the function of education to help produce normal balance and to prevent maladjustments. The majority of the insane are adult individuals who have been considered as educated. The process of education has as its main function the implanting of ideas. It, therefore, is important that the ideas be desirable and so distributed that normal balance will inevitably ensue. Anyone may become insane with only one train of ideas. The school should give diversity of ideas to insure perspective. This means sanity.

2. PREVALENCE OF INSANITY, FEEBLE-MINDEDNESS, AND EPILEPSY

Statistics of mental deviation inadequate. It is difficult (for several reasons) to determine accurately the number of mental deviates. In the first place the exact lines of demarcation between the normal and the abnormal are not sharply drawn. Second, large numbers of abnormal individuals are not in institutions. Third, in many cases they are even unknown to public officials. Finally, statistical records are so inadequate and loosely kept that little reliance can be placed upon their accuracy. Vital statistics have not been required very long and even since they have been nominally required officials have been very lax in gathering them. Private individuals feel very little responsibility in reporting to the authorities. Within very recent times no records were kept even of births, deaths and marriages. Much less were records made of diseases.

At the present time while there are fairly accurate records of institutional cases of insanity, epilepsy, and mental defectives we know that not even all undoubted cases are

segregated in the hospitals. Some extreme cases and most borderline cases are in private sanitariums, private homes, or maintained in their own families. I well remember several cases of extreme feeble-mindedness and of the hopelessly insane who roamed through the neighborhood entirely unrestrained. One man, with maniacal tendencies, used to go about always carrying an ax which he brandished at the school children who jeered at him because of his eccentricities.

Guyer recently collected statistics concerning the main classes of mental deviates. He says that:

In 1923 there were some 285,500 patients in hospitals for mental disease, nearly 2,000 in psychopathic wards in general hospitals, and 22,839 such patients on parole. How many there were out of contact with hospitals there is no way of knowing. According to estimates based on statistics of the New York State Hospital Commission approximately one out of twenty-five persons becomes insane at some period of life. There are more persons in our hospitals and homes for mental diseases and mental deficiency than there are students (726,124 in 1926) in our colleges and universities. In 1924 some 76,000 persons were graduated from our colleges and universities while there were about 75,000 first admissions and 16,000 readmissions to our hospitals for the insane. According to a note in the *Mental Hygiene Bulletin* there are approximately 24,000,000 individuals in the United States attending public and private schools and colleges, about four per cent of whom, or 960,000 will at some period of their lives enter a hospital for mental disease if the present rates for first admissions to such hospitals continue.¹

Prevalence of feeble-mindedness. Accurate statistics regarding the feeble-minded are even more difficult to obtain than in the case of the insane. This is true because of the difficulty of distinguishing clearly the borderline cases. A good many feeble-minded children, especially if well developed physically and good looking are not regarded as

¹ Cuyet, M. F., *Being Well Born*, Revised Edition, 1927, p. 336

feeble-minded. They are thought to be developing slowly, or are sometimes thought to be lazy or contrary. It is especially true that a good many feeble-minded girls are very good looking, even pretty. Also, because most feeble-minded persons are perfectly harmless and generally good natured, they do not attract attention as the insane do. They are consequently shielded by their families and unrecognized by society and continue unsegregated. According to Laughlin probably only about five per cent of all the feeble-minded in the United States are actually receiving custodial care.

According to Guyer:

One finds estimates for the United States ranging all the way from 400,000 to 2,000,000 or even 4,000,000. The total number of mental defectives in institutions in the United States on January 1, 1920, was 40,519 and if this represents ten per cent of the clearly feeble-minded—a not uncommon estimate—then something between 400,000 and 500,000 is probably a minimal figure for the present time. On the basis of Dr. Laughlin's five per cent estimate the number would stand somewhere between 800,000 and 1,000,000.¹

The foregoing figures of Guyer considered with other sources leads me to believe that from .6 per cent to one per cent of the total population is feeble-minded. The frequently quoted estimate of two per cent seems altogether too high. Of course, much depends upon where the dividing line between feeble-mindedness and normal life is drawn. In any case, the numbers are appallingly large. When we add to this unfortunate class about a third as many insane and at least a third as many dangerous criminals we recognize what a tremendous army of unfortunates society is maintaining. Most of the burden is unnecessary and would be obviated by enlightened education and preventive hygiene.

¹ Loc. cit., p. 338

Relation of the school to insanity. With this appalling array of statistics regarding the armies of unbalanced individuals we should be moved to try to check the conditions at their source. It will be the purpose of this chapter to show that the school, while not directly the cause of insanity, may do much to prevent its development. There are no cases of insanity among little children in the grades and seldom any in the high school. Later adolescence is the period when this mental malady makes its inroads. Not infrequently cases are discovered among college students.

All school teachers should be aware of the causes of insanity and of means for its prevention. They are not to act in the rôle of physicians in curing this disease. They need not expect to discover any cases, but they should know the conditions that lead up to the affliction which outcrops at a later time. They should also know that children who are perfectly normal may develop the disease in adolescence or in mature life. They should know that any of their promising children may become the victims. They should understand that insanity is not primarily hereditary, but acquired as a result of faulty education, frequently in the elementary grades.

Terman says:

The insane population of the United States amounts to about 200,000 persons. A few years ago most of these were children enrolled in the public schools, and we may well raise the question whether an educational regime specially adapted to their needs could have preserved any considerable proportion of them from their sad fate.¹

Pressey writes:

There is, then, (a) a good sized army of individuals in institutions for the insane and the feeble-minded in this country; there is (b) a still larger group of individuals not now in institutions,

¹ *Hygiene of the School Child*, p. 288

but who should be having institutional care; and (c) less extreme problems of mental health are to be found everywhere—in business, in the courts, in social agencies, in the schools, and colleges.¹

Pollock and Furbush comment:

The natural first question is as to the number of individuals so abnormal as to be placed in institutions. A census recently taken by the National Committee for Mental Hygiene showed a total of 290,107 individuals in institutions for the mentally diseased, the epileptic, and the feeble-minded in the United States on January 1, 1920. Of these, 232,680 were patients in hospitals for the mentally diseased, 14,937 were in institutions for the epileptic, and 40,519 were in institutions for the feeble-minded. There were also 1,163 alcoholics and 808 drug addicts in separate institutions for such cases. These individuals were all actually in institutions at the date of the census. In addition, there were 18,268 cases reported by the hospitals for the mentally diseased as on parole, escaped, or otherwise on the books but not then in an institution.²

3. TYPES OF INSANITY AND THEIR CAUSES

Pathological and functional insanity. Two types of insanity are recognized, (a) pathological and (b) functional. Pathological insanity is due to some actual disease or degeneration of the tissues of the brain or the nervous system. Functional insanity is due not to diseased nerve cells but to the presence of persistent ideas in the mind that throw the mind out of balance. These obsessions may be simple and harmless in themselves but their persistence and obtrusion cause distortion of the whole mental life. An individual may be obsessed with the idea that he is King of England, which in itself harms no one. But if this idea presses forward continually it is sadly out of

¹ Pressey, *Mental Abnormality and Deficiency*, p. 5

² Pollock, H. M. and Furbush, E. M. "Patients with Mental Disease, Mental Defect, Epilepsy, Alcoholism, and Drug Addiction in the United States, January 1, 1920." *Mental Hygiene*, Vol. 5, pp. 139-69, 1921. For later data showing essentially the same statistics see same journal, Nov., 1925

harmony with the everyday life of the individual. Sometimes the obsessions are such as to endanger society and the individual must be separated from society.

Some characteristics of insanity. Guyer says:

The commonest manifestations of insanity are undue depressions, apathy, excitement, instability, obsessions, hallucinations, and delusions. Some mental disorders are associated with recognizable structural changes in the nervous system, but the structural basis of many is not known.¹

It used to be believed that insanity was always inherited, but it is now recognized that such is not the case. While most cases of feeble-mindedness can be traced to feeble-minded ancestry, only a relatively small proportion of cases of insanity can be so traced.

Insanity is not generally found among persons of slow mentality. The feeble-minded are in reality never insane. Insanity means a mind out of balance; the feeble-minded have not mind enough to get out of balance. It is the keen, bright person who is most apt to become insane. Slow, plodding individuals are not apt to have mental deviation. Those who are possessed of the finely organized intellect and sensitive feelings are the ones who are most liable to acquire ideas which they misinterpret and brood over. The adolescent boys and girls who stand highest in their class work, who are conscientious in the performance of duty are the ones who are most apt to take things over-seriously. The slow, lazy pupil or the careless, flippant one seldom goes off on a tangent on any one idea. Those who are most precocious, who are the most promising are the ones to watch for signs of aberration. They are the ones who need most care and help. There is no need of their going insane and being lost to society if proper mental hygiene is observed,

¹ *Being Well-Born*, p. 339

but they are like the fine thoroughbred animals and plants, highly organized but easily liable to malformation. This is doubtless true because life forces are so responsive that environing conditions exert a powerful influence in determining directions of growth and behavior.

Mental deviation and glandular conditions. It has been quite the vogue lately to ascribe all mental deviation to some defective gland functioning. While that may explain some cases, undoubtedly its importance has been entirely exaggerated. Myerson, Professor of Neurology in Tufts Medical School, writes:

While some "endocrinologists" find an endocrinal origin for every disease in which there is any disturbance at all referable in any remote manner to a gland, we know of but a few mental conditions definitely of endocrinal causation. . . . Though there is a respectable amount of work to be cited in this disease (*dementia praecox*) no one as yet can claim any proof that the disease rests fundamentally in endocrine disorder. A good deal of what passes as reasoning in the articles on endocrine disorder assumes that where endocrine disorder can be postulated it is necessarily *causative*. Conceding that in any given disease there are symptoms referable to the thyroid gland, this may merely mean that the agent of injury *affects* the thyroid as well as other parts of the organism.¹

Myerson goes so far as to assert that many so-called "nervous breakdowns" are not at all pathological but are purely functional in character. Even in epilepsy the anatomical conditions do not reveal pathological degeneration. Church and Peterson, say:

It must be admitted that at present the most careful search fails in many cases to detect any histological changes known to be morbid.²

¹ *Inheritance of Mental Diseases*. Williams and Wilkins, 1925, p. 45

² *Nervous and Mental Diseases*, 6th Edition, p. 616

In most cases when diseased tissues are found they regard it as an *effect* of the convulsions rather than a *cause*.

Adolescence and insanity. There are many statistics which prove that adolescence is the period for the outbreak of insanity. According to Hall:

Out of 1,800 insane Clouston found 230 between fourteen and twenty-five years of age; 49 between eighteen and twenty; 157 between twenty-one and twenty-five years of age. Fink reported that of 1,892 inmates of the Wurzburg Hospital 228 were under twenty-nine, 12.5 per cent males and 11.5 per cent females. Cullerre found in France that 4.7 per cent of all were between fourteen and twenty, and 8.8 per cent between twenty and twenty-five.

Marro tabulated the age of the first appearance of insanity in 1,649 males and 1,257 females in the asylum at Turin during the decennium 1886-95. . . . He included idiots and cretins, and all forms of arrested or perverted development. The age of most rapid increase is from about sixteen to twenty, and at twenty-five the age of greatest liability is already passed.¹

Myerson² brings out the fact that insanity is a disease recurring at adolescence most frequently.

Discussing the age distribution of 1,054 cases of dementia praecox, Kraepelin states that 3.5 per cent occur at ten years, 2.7 per cent at fifteen years, 21.7 per cent at twenty years, 22.8 per cent at thirty years, 13 per cent at thirty-five years, 5 per cent at forty years, 3.3 per cent at forty-five years, 1.2 per cent at fifty years, 1.1 per cent at fifty-five years, and 0.2 per cent at sixty years.

The very great majority of cases of epilepsy develop under twenty years of age, and the pubescent period, between twelve and seventeen, contains the greater proportion of them.³

While individuals are liable to mental aberration at any age, yet there are particular periods of life characterized by special

¹ Hall, *Adolescence*, Vol. 1, p. 272

² *The Inheritance of Mental Diseases*, p. 86

³ Church and Peterson, *Loc. cit.*, p. 615

vulnerability. In general, it may be said that this vulnerability is greatest in women between the ages of twenty-five and thirty-five, and in men between twenty and fifty, for it is at middle age that we find the maximum accumulation of etiological factors. But there are physiological epochs that influence markedly the line of psychic morbidity, and these are the periods of puberty and adolescence (fourteen to twenty years), that of genital involution in women (forty-five) and that of senile involution (sixty to seventy years).¹

Physical causes of insanity. That there are many physical causes predisposing toward insanity cannot be doubted. Concussion of the brain, shocks to the nervous system, degenerative diseases which attack the nervous system, undoubtedly directly cause derangement of mental functioning. Then many diseases producing unbearable pain and those that become chronic indirectly cause unbalance. In these latter indirect causes, however, the mental unbalance comes directly from unfortunate ideas or emotions such as fear and worry about the disease or about some of the family or friends who are affected unfavorably because of the disease. The foregoing, however, are not directly questions of the school or of education and consequently will not be discussed.

Some functional causes of insanity: importance of recognition. As it is the purpose of this chapter to bring out strikingly the intimate relation between education and the development or prevention of mental unbalance, a few causes lying within the field of educational control will be discussed. These will be considered not from a technical medical viewpoint but rather from the practical everyday home and school relationships. There is no reason why the average parent or teacher may not contribute in a very vital way to the conservation of normal mental life and to

¹ Church and Peterson, *Loc. cit.*, p. 700

the appreciable solution of a problem of national significance and of appalling proportions. If parents and teachers could but appreciate the magnitude of the problem, could but understand how simple the remedy, and then become imbued with their share of responsibility, untold good might result.

Superstitions and stories in the home. Thousands of foolish fears produced by stories of goblins and ghosts and other superstitions are produced in children's minds. When once implanted they are often nursed in silence but persist like poison in the system.

I remember when a lad hearing the neighbors belonging to a certain church sect telling about the approaching end of the world. They distributed tracts asserting "In 1881 the end of the world shall come." Some one had measured the Great Pyramid of Egypt and discovered that in some dimensions it was 1,881 inches. That was the sign of the prophecy. I knew the neighbors to be fine, highly respected people and so when I read these tracts and heard them talking about it, supporting it with scriptural references, I believed it implicitly. I heard of people selling off all their worldly goods and planning to ascend to the housetops when the special trumpet should sound awakening the sleeping dead. As a result during all of the year of 1881 I lived in mortal terror. I imagined often that I could see Gabriel's trumpet protruding from the sky and thought I could hear it announcing the last judgment.

It is a wonder that such stories have not produced life-long morbidity in countless numbers of people. Terman says:

The life of the nervous child is often made wretched by haunting fears—fears of the dark, of burglars, of impossible animals, of death, hell, the loss of father or mother, etc. Sometimes the fear is not specific, but is evident as a vague "anxiety state" which

makes the child forever apprehensive. Nervous children are usually oversensitive to the opinions of others, unable to endure blame, and constantly hunger for praise. Severity shatters them, but for the sake of approval or to surpass others they will work to the point of exhaustion.¹

Children's sorrows. Terman says of children's sorrows:

To many people the sorrows of children are but foolish tears; their deepest griefs, humiliations, and disappointments seem but transitory affairs. Nothing could be further from the truth. Children's emotions are more compelling than our own; their sorrows are the most real there are. The child lives in the present, and his griefs unlike those of men and women, are little mitigated by the memory of former joys or by the hope of others yet to come. All of this and much more relating to the tragedies of childhood is painfully depicted in the recent literature on children's suicides. These seem to be on the increase in most civilized countries and to show a tendency to occur lower and lower in the age scale. If the figures for France and Germany hold for the United States, it is probable that the annual number of suicides of children under seventeen years of age amounts to about 500, and that the total number under twenty-one years exceeds 2,000.

Eulenberg's analysis of 1,117 cases in Germany indicates that over one-third of all were caused wholly or in part by the school. The causes most often named in this connection are fear of punishment, failure of promotion, unjust treatment, mental overwork, etc. Even when the school is not the fundamental cause of the school child's suicide, it is often blamable for failure to recognize the morbid mental condition and to surround the child with the appropriate counteracting influences.²

Suppressed emotions. Although not a believer in extreme Freudian views, I am convinced that the repression of healthful emotions may sometimes, even frequently lead to insanity. By constantly repressing spontaneous emotions of happiness the child may develop a habit of depression or sorrow. Constant brooding over fancied causes of sadness

¹ *Hygiene of the School Child*, p. 329

² *Loc. cit.*, p. 329

will most certainly tend to develop an obsession most harmful to success. Failure to succeed then intensifies the obsession. In this connection Terman makes the following comments:

In the most literal sense, everything that is experienced is conserved. Not that it can be recalled, any moment, by an act of the will; but conserved in the sense that it will remain functionally active as a determiner of future mentation. Thus Freud demonstrates that when in childhood a disagreeable emotion is suppressed, carrying with it into apparent oblivion a host of associated memories, the disagreeable emotion and its suppressed associates are by no means annihilated, but may reappear in adult life as phobias, obsessions, hysteria, etc., whose origin is not suspected by the patient and can only be brought to light by the methods of psycho-analysis.¹

The school's contribution to mental aberration. Children though light hearted and flitting in their attitudes are constantly worried over trifles that seem utterly foolish to grown-ups. Careless remarks of those in the home, unintentional criticisms by the teacher, often sting with a degree unrealized by adults.

Teachers often nag unintentionally. In their zeal for efficiency and progress they continually urge children on at a pace that they can not travel comfortably. When they lag or stumble, the teacher's remarks are often caustic and burn themselves indelibly in the child mind. In talking to the whole class in the effort to spur on some lazy ones the keen sensitive ones are almost sure to say "the teacher means me." The slow lethargic one will be utterly unaware that he is the one intended.

As an illustration of the way in which some teachers may be so conscientious as to be absolutely unjust, the following incident told by a superintendent of schools in a Pennsyl-

¹ Loc. cit., p. 320

vania city is here related. He said that one morning as he was walking through the corridor of one of the grade buildings he espied a little girl of about ten years of age weeping bitterly. He said, "What is the matter, little girl?" The child sobbed out, "I was tardy this morning thirty minutes and now I've got to stay after school fifteen minutes for every minute late." "Why were you tardy?" inquired the superintendent. "Well, you know," said the lassie, "my mother is poor and has to take in washing to keep me in school, and to help out she keeps a cow and sells milk. Last night the cow broke out of the yard and wandered over the hills and I had to go after her. And now I've got to stay after school over seven hours," she continued, crying as if her heart would break.

The superintendent said the teacher was a very well meaning teacher and horror of tardiness had become an obsession with her and so she had actually made the rule reported by the little girl. A conference with the teacher and the tragedy of such cases laid plainly before the teacher caused her to promise a complete reformation.

Unsympathetic teachers. Many teachers are wholly lacking in sympathy with their pupils. Sometimes they hate teaching and only continue in it as a means of existence. It means a meal ticket only and not a wonderful opportunity for service. Sometimes there is no general antipathy toward the work but they cannot adapt themselves to the slow pace of the pupils. They become irritated and exasperated and frequently biting sarcasm. One teacher, of whom I knew, was teaching American literature to adolescents in the junior year of the high school. They were studying the influence of the philosophy and theology of Jonathan Edwards upon English writing. Think of the maladaptation! She called upon one big ado-

lescent of about sixteen to recite. He was of a shy, retiring disposition, not especially fluent in expression. He gradually uncoiled himself to his full six feet in height and was trying to marshal his thoughts and formulate his answer. He was, of course, slow in his response. The teacher had been over this particular topic scores of times and could give the answer with lightning rapidity. Before the boy could control his vocal organs for an awkward response the teacher shot out "Sit down, you're hopeless!" Was the boy helped? What emotions were prompted? When he went home that night he said "Mother, I *hate* that teacher!"

Failure complexes. Many persons are obsessed with fear of failure. They believe that their life has been a failure, that they are now failing and that they will fail in the future. When such an idea gains possession there is little probability of success in anything they attempt. An illustration of this came under my observation when I was a principal of schools. A certain boy named Robert, about thirteen years old, was the despair of all his teachers. He was continually in trouble, either failing in his work or doing something irritating and not infrequently something genuinely bad. His teachers scolded, admonished, and punished, but without avail. He was frequently sent to me as principal. I reproved, punished, coaxed, and pleaded, but his visits to me continued. I tried everything resorted to in those days, but without success. Finally one day in sheer exasperation I said, "Robert, why is it that you are such a bad, bad boy?" His answer was instantaneous. It was not thought out on the spur of the moment as an invention for that particular occasion. As a reflex of what was his particular complex he shot out "It's my nature!" He expressed a psychological fact. That belief had become his nature. Later I found out the origin of the complex.

Robert was an orphan. His parents had died when he was an infant and Robert had lived with his grandmother, a woman of about sixty years of age, who believed implicitly in a literal interpretation of the scriptural injunction "Spare the rod and spoil the child." Robert was active, full of life and a trial to his grandmother. She scolded him continually, nagged him about his conduct, and beat him unmercifully. In time he became callous to all these but developed a "bad boy complex" so that this became his "nature." Happily the next principal was more successful in dealing with Robert and succeeded to a certain degree in developing a "new nature" in him.

4. WHAT THE SCHOOL CAN DO TO PREVENT INSANITY

Regularity of tasks. The school can do much both in preventing the development of insanity and even in alleviating and curing incipient cases. Regularity of occupation is a very important means of regimentation. Regularly recurring work develops habits of thinking about the tasks of life that are supposedly worth while. This regularity of thought upon assigned tasks shunts the individual's mind to thoughts that are outside of himself. To a certain extent it encourages "extrovertial" tendencies. This is desirable to a certain degree. Any tendencies to over-introspection or moodiness can be counteracted by regular concentration upon ideas unrelated to self.

Prevention of failures. In the Winnetka schools, under the present guidance of Superintendent Washburne, no child is allowed to fail, according to Dr. Washburne. A plan of individual instruction is being followed so that each child progresses at his own pace. He keeps at a task until it is mastered and is not required to finish it at the same time as other children or at any set time. In this way there

is no failure in the ordinary meaning of the term. An attempt is made to prevent discouragement and the formation of a "failure complex."

Wholesome thoughts. The school presumably selects and encourages the selection of worth while and wholesome thoughts. Insane persons brood over ideas that are not worth while. Often these thoughts are morbid, vicious, or unclean. Any preëmption of the mind with clean, wholesome, worth while thoughts will tend to produce sanity.

Happiness an antidote. Cheerfulness and happiness should characterize the school. Through the teacher's example, happiness may become contagious. The construction of the building, the lighting of the rooms, the presence of pleasing furniture, artistic decorations and pictures, all contribute to good cheer. In civics, history, science, the reading selections should be such as to stimulate happiness. By using the curriculum as a means of awakening thoughts concerning the welfare of others this end may be promoted. Friendliness and good humor on the part of the teacher are quickly sensed and spread among the pupils. Most insanity comes from sorrow and depression. Anything that will promote exaltation will counteract feelings of depression.

The value of sympathy. A yearning for sympathy is a frequent characteristic of mental aberration. Individuals get the idea that they are misunderstood, that parents, teachers, and the whole world are against them. When this becomes an obsession it is insanity. By evincing an understanding of youthful life and showing a friendly sympathy much can be done to dispel such usually unfounded attitudes.

Develop "success complexes." Professor Seashore once related an illustration to show how the "success complex" can be developed even in the feeble-minded. He was visit-

ing the Vineland, N. J., institution for the feeble-minded and observed how the tasks were delegated in such a way that each could achieve some degree of success regardless of his mental status. Dr. Seashore said he observed one of the inmates, a man in stature but with an imbecile mind, coming toward the visitors in great glee. He held up a teaspoon for them to see. On inquiry they found out that this man's job was to search the pig troughs to rescue any chance knives, forks, or spoons, that were thrown out with the dishwater. On this day he found a teaspoon and was greatly elated over his success.

Every child in school ought to feel the thrill of accomplishment. Tasks should be so adjusted that success is the outcome. Even grown-ups become discouraged with constant failures. Balky horses are made balky by being given loads to draw which they cannot move. Repeated failures make them feel that all loads are impossible and they learn to refuse to try at all. Many children learn to be balky in the same way.

One of the means of developing a "success complex" is by adjusting each child to the type of work that he can do most efficiently. The subject of individual differences is more fully treated in another chapter, hence only a few suggestions will be made here. In well organized schools children are no longer all given the same kind and amount of work to do. Manifold adjustments must be made to minister to individual needs and abilities.

A child can be happy only when doing that which he has ability to accomplish, that in which he is interested and that in which he is successful. Whenever the child feels that he is not succeeding he loses interest and if spurred on to do the impossible, unhappiness is a certain outcome.

Ultimately discouragement becomes chronic, an obsession develops and becomes one of the factors leading to mental aberration.

Oftentimes pupils are made unhappy and led to hate school and distrust themselves simply because they do not seem to have ability to succeed with some of the traditional subjects. In many cases they possess rare talent in special directions. These treasures should be assayed and mined for the benefit to society. Too long we have assumed that all must be ground through the same traditional mill.

A notable attempt has been made in some of the Cleveland high schools to discover special abilities in order to afford better social guidance of the pupils. The purpose is to make the pupils happier while in school and also to fit them for more efficient social service. Mr. H. A. Bathrick, of East Technical High School, says:

We are still thinking in terms of the old conjugations. The entire educational set-up is conservative and hangs on. The whole curriculum must be so revised that place in time and credit will be made for the present extracurricular activities.¹

Mr. Frank P. Whitney, former principal of West Technical High School, said in the pamphlet:

The whole public school system is to be indicted for not discovering the wealth of personal and individual resources in our pupils. There is too much routine. We have carried music to high development. There are pupils who can excel in drawing and art, in cartooning and jewelry. The innate capacities of our pupils have barely been touched. There are pupils who could write real poetry who are repelled by formal instruction in English. But if we make the course flexible enough not to repress creative instincts, the administrative difficulties are undoubtedly tremendous.

¹*Social Guidance in Cleveland High Schools*, p. 115. Published by the Teachers' Federation

SELECTED REFERENCES

- BROOKS, FOWLER D. *The Psychology of Adolescence*, Chaps. XV, XVI. Houghton Mifflin Company, 1929
- BURNHAM, WILLIAM H. *The Normal Mind*. D. Appleton and Company, 1924
- CHURCH, ARCHIBALD and PETERSON, FREDERICK. *Nervous and Mental Diseases*. Sixth Edition, W. B. Saunders Company, 1909
- GODDARD, HENRY H. *Feeble-Mindedness: Its Causes and Consequences*. The Macmillan Company, 1914
- GUYER, MICHAEL F. *Being Well Born*. The Bobbs-Merrill Company, 1916, Revised Edition, 1927
- HALL, G. STANLEY. *Adolescence*, Vol. I, Chap. IV. D. Appleton and Company, 1904
- MYERSON, ABRAHAM. *Inheritance of Mental Diseases*. Williams and Wilkins, 1925
- PATON, S. *Signs of Sanity and the Principles of Mental Hygiene*. Charles Scribner's Sons, 1922
- PRESSEY, S. L. *Mental Abnormality and Deficiency*. The Macmillan Company, 1926
- TERMAN, LEWIS M. *The Hygiene of the School Child*. Houghton Mifflin Company, 1914, Revised Edition, 1929

CHAPTER XIII

YOUTH AND CRIME

1. THE PROBLEM STATED

The appalling amount of crime—preliminary. In spite of universal education and the progress of civilization the breaking of legal statutes and the utter disregard for well established moral laws have become so flagrant and widespread as to be of the gravest concern. Crime is the cause of the greatest drain on the public purse. It is of a magnitude and a viciousness never before known since the days of savagery. Federal, state, and local governments are greatly alarmed and are launching inquiries into the extent, causes, and possible means of reducing the present crime wave. President Hoover, to his great credit, has signalled halt in the infamous doings of the "scofflaws." He has warned that the observance of laws duly enacted by majorities are at the foundation of all sound government.

Who are the law breakers? Among the most apprehensive and disturbing aspects is the fact that the majority of the offenders are youth. No longer are jails and reformatories filled mainly with old, hardened, desperadoes but with youngsters in the early teens and those just past their majority. The average age of criminals has been much lowered in the last two decades. Furthermore, the miscreants are not mainly gutter snipes from the slums and from homes of abject poverty. They are frequently from homes of plenty, even affluence, have had the advantages of our grammar schools, high schools, and not infrequently our colleges and universities.

Meaning of crime and delinquency. By delinquency is meant any deviation from social or legal customs whereby the individual comes to be considered as disturbing to social welfare. By criminal is meant any infraction of legal statutes which causes the individual to be liable to arrest and punishment through due process of law. The amount of delinquency and criminality is usually measured by the number of arrests, imprisonments, or the number of investigations of disturbance or the number of commitments to corrective institutions, the number of probations, paroles, or official reprimands. It will be readily understood that delinquency and crime are arbitrary terms and vary with standards of society. What may be considered criminality or delinquency in a given time or state may be considered entirely normal and permissible behavior at other times or places. It is very important, therefore, to distinguish carefully between conduct that is inherently vicious and degrading and that which is merely unconventional.

2. THE EXTENT OF CRIME

In this discussion no attempt will be made to present an exact census of the extent of crime and criminality. Neither will there be any effort to analyze the types of crime or to compare geographical localities in order to determine its exact distribution. The purpose is rather to present some salient facts regarding crime and criminals in the hope that the presentation may help us to realize the colossal magnitude of crime and its menace to our civilization.

Testimony of statistical experts. The facts have been largely assembled from the writings of special investigators who have devoted much time in gathering their sordid stories. Rather liberal quotations will be made from those original accounts.

Figures relating to the prevalence of crime certainly do not present a very reassuring picture. A recent daily newspaper¹ stated that in 1924 crime cost forty-two million dollars more than the income of the United States government. During the same year \$3,620,000,000 fell into the hands of crooks. R. C. Saunders, manager of the protection department of the Illinois Bankers' Association, declared that crime had increased twelve hundred per cent in the last thirty-five years.

Richard Washburn Child wrote:

Crime, say the experts and statisticians, costs the people of the United States much more than public education.

Crime, as the figures show, goes merrily on increasing. Now, as in the past, a comparison of our murder, robbery, burglary, fraud, and lawlessness record with that of other civilized countries shows us as standing head and shoulders above the rest of the world in breakdown of law enforcement.

It has been computed that in several cities of the United States the cost of law enforcement is between eight and ten dollars a year for every man, woman, and child. Dr. Frank Moore, a student of penal methods in New Jersey, says that it costs \$2,200 to find, prosecute, and punish the average criminal in that state.

We not only spend more money on our criminals than on education; we spend ten times more money in costs of crime and its prevention and punishment than we spend on our army and navy. We spend three times more money on our crime than the Government raises from its customs and internal revenue. The operating director of the Chicago Crime Commission has figured that the direct financial loss of crime to the people of Chicago averaged about thirty-three dollars apiece every year. But lawlessness increases; it does not diminish. Crimes of violence are commoner every year. The streets and highways are like a wild-west show, with real bullets substituted for blanks.²

The following editorial in a recent daily newspaper in-

¹ *Post-Intelligencer*. Seattle, July 21, 1926

² *Saturday Evening Post*, Oct. 10, 1925, p. 26

icated that not only educators but the general public as well are becoming exceedingly alarmed at the staggering outlook. The title of the editorial is "Increase in Crime."

It is not a pleasant thing to contemplate, but we might just as well face the unpleasant fact that crime is increasing. The long drawn-out murder cases in Chicago and others like them throughout the country do not help the situation either.

William Byron Forbush has recently published a new book. It is a little eighty-eight cent affair, but it is one of the most significant and pregnant publications of this modern moment. The theme and plot of the book is dishonesty and its price. Its moral is in the title, "Be Square."

Stock frauds, land frauds, and confidence games cost us each year, Mr. Forbush shows, \$2,000,000,000, burglary and theft \$525,000,000, embezzlement and defalcations \$125,000,000, graft and looting of public domain \$200,000,000, fraudulent bankruptcy and credit swindles \$100,000,000, bad debts owing merchants \$150,000,000, forgery and worthless checks \$125,000,000, piracy and seaport robbery \$75,000,000—a grand gloomy total of \$3,300,000,000.

Add to this the \$5,000,000,000 we pay for police, courts, jails, and prisons, and we know that dishonesty costs us \$8,300,000,000 a year, a sum sufficient to pay the current expenses of any three governments—enough to thoroughly educate every child in the country.

A recent circular, "The Daily Crimes," issued by the Continental Casualty Company of Chicago (Form H 121) contained the following:

Our Biggest Tax—The Cost of Crime. Crime, it is startling to learn, piles up such a staggering loss to this country that it costs more than our Army and Navy, more than our police system, more in fact, than any other item in our national ledger. . . .

Penologists and criminologists estimate in one sense or another from one to one and one-half per cent of the population is criminal. At all times about 200,000 persons in the United States are under lock and key. But these 200,000 represent less than one-fifth of the active criminal population—men, women, and children, who

are definitely anti-social and certain to be charges of the State for some part of their lives.

In 1876 when Jesse James and the Younger brothers looted the bank of Northfield, Minnesota, and then shot up the town and escaped, it was such a daring and rare exploit that the papers all over the world were full of the account and the James and Younger brothers became the world known desperadoes and the robbery a great historic event. At that time and for thirty years after, bank robberies were so rare that they seldom occurred in one's own town or state. Now one can read of just as bold and ten times more colossal bank robberies at one's door almost any evening.

The latest available statement regarding the enormous loss through crime is found in *The Literary Digest*, July 20, 1929. Reference is made there to a recent statement broadcasted over the radio by Wade H. Ellis, former United States Attorney General. The editorial is as follows:

The Story of Our National Dishonor. Crime costs the United States the appalling sum of \$13,000,000,000, or approximately the total of the war debt, every year, and 12,000 people, or seven in every 100,000, are murdered annually, according to figures broadcast recently over station WJSV, Washington, by Wade H. Ellis, of the American Bar Association's Crime Commission. The figures presented by Mr. Ellis, who is a former Assistant Attorney-General of the United States and an ex-Attorney General of Ohio, are from the report of the Bar Association's Commission, and Mr. Ellis describes them as "being, in the most graphic form, the story of our national dishonor." Other terrifying statistics are that the number of murders in the United States are fifty times the number recorded in Great Britain, that 30,000 criminals are at large in New York and 10,000 in Chicago, and that the annual murder rate in this country has increased 350 percent since 1900. In others words, while two persons in every 100,000 were murdered in 1900, the proportion is now seven in every 100,000. And all this, comments the former Assistant Attorney-General, is found

in the country that has "the most money, the most power, and the most laws." . . . In many of the larger cities of America there is a political and sometimes a financial partnership between the underworld and the very officials who are sworn to protect the lives and property of law-abiding citizens.

From the Salvation Army. The following comments by officers of the Salvation Army are exceedingly suggestive because that organization has an opportunity to observe crime in a way that is unique. Since their work is to rescue and not to punish they are not feared and shunned by the denizens of the underworld. They are highly respected by the crook as well as by the minions of the law. They come to know of crime even as the police and the lawyers do not. They also come to know of its far-reaching, blighting effects upon relatives and society at large in a way that no other group does. The following editorial in the *Advisory Board News* reflects the Army's view:

There is more immorality in the United States to-day than in any previous era in the history of our country. A tide of corruption has crept so completely over the nation that not a city or hamlet has escaped contamination. Vice, under one name or another, has ingratiated itself into the lives of more boys and girls, more men and women, than ever before. . . . But the fathers and mothers of America either do not realize or do not care.

It is not difficult, however, to understand their failure to see clearly. The moral sight has been dimmed; it, too, has been affected by the trend. Gradually men and women have learned to overlook as "all right" things that are all wrong. When "everybody" does a brazen thing, the thing ceases to be brazen. And so sensual dancing, illicit liquor, wild "parties," a frightful lack of modesty, a drawing away from the Christian religion, and all the angles that are included, play a leading part in our social life, from the top strata to the bottom. Pleasure has ceased to become innocent, and has become vicious.

Red light districts are springing up again, with a new class of

girls—girls who have slipped clear to the bottom before they knew they were slipping at all. The line of demarcation in this form of vice is less distinct than of old. Many a “partying” girl who thinks she has only been having a good time and has received little or no censure for it, suddenly awakens to the fact that she has become bad. Then the fall is more abrupt. Often she is very young. She may be from the country or the city. There isn’t a great deal of difference any more. The small-town girl, as a rule, is the match for her city cousin in point of sophistication.

Parental neglect is largely to blame. Parental restraint, or even parental influence, is as rare as innocence. Yet nothing else in the world but an awakened moral and religious consciousness on the part of parents can stem this wave of wickedness and save the sons and daughters of the period.¹

The daily chronicle. *The Baltimore Sun* said editorially, August 5, 1922:

Baltimore, it would seem, is fast becoming a town of unsolved criminal mysteries. It is the same story continually repeated. Murders and other crimes occur, and the police run hither and thither aimlessly on a hundred trails like a pack of ancient hounds that have lost their sense of smell.

The merest glance at the headlines of any metropolitan daily ought to convince the most skeptical or those with the most deadened sensibilities that crime is the outstanding feature of society to-day.

To see how crime news bulked in a metropolitan daily, I took, as a sample, the first number that came in a pile of recent papers just discarded. It happened to be a Tuesday issue and not a Sunday edition. Had one of the latter been secured it is likely that a larger number of crime stories would have occupied large space. The “scare heads” are copied below just as they appeared without softening or embellishment. Certainly the number and character of the

¹ Quoted in *The Seattle Star*, Sept. 12, 1922

items are enough to wring one's heart with dismay. Think of such an array of "literature" greeting the eyes of every member of the family every day of their lives! If there is anything in the theory of ideo-motor action (that every idea that gets into the mind results in the suggested type of action or behavior) what conduct must result from such a deluge of criminal suggestions. It is only to be hoped that some of the stimuli produced "contrary suggestions," in a measure counteracting the unfortunate teachings.

The following are samples of the daily intellectual menu: "Bandits Hold up Drugstore and Flee with \$150"; "Hunt Begun for Hit-run Driver as Victim Dies"; "Youth Confesses Five Burglaries"; "Boys Try to Cash Check; Entrapped by Banker"; "7000 Officers Comb City for Kidnap-Slayer"; "Joe Parente, Rum-runner, Reported Captured in B. C."; "Remus Acquitted of Charge That He Murdered Wife"; "Kidnapper-murderer Eludes Police Chase"; "Divorce Aftermath of 'Elopement' Case"; "Six Youths Held as Burglar Suspects"; "20 Chinese Reds Put to Death by Hankow Troops."

I searched the paper to see if some other lessons were not presented. These are samples that were found in the movie ads: "The Easy Mark"; "Quicksands"; "Too Many Crooks"; "A Reno Divorce"; "When Mystery Stalks"; "Warm and Cozy; a Hot Bit of Fun"; "Mantrap."

Not being a Saturday issue there were no church notices nor were there any abstracts of the Sunday sermons found in the Monday issue. The Sunday club calendar and the social whirl were also lacking. The only alleviating suggestions of altruism and human sympathy were found in three items obscurely tucked away among the financial and shipping news. They were: "Prayer is Offered in Senate for

Wrecked Divers"; "Pupils Making Their Christmas Presents"; "Kind Words Leaders Prepare for Meeting."

3. HEREDITY AND CRIME

Popular belief. Many have believed in the past and many still believe that crime is the result of hereditary predispositions with which the individual is freighted at birth. There is probably no such thing as the born criminal, that is, one who has criminal predispositions impelling him to commit crime. Lombroso taught several decades ago that criminals were born with various physical stigmata which were signs of criminal predispositions and by means of which they could inevitably be detected. That claim has been exploded. Experiments have been performed to show that there is not a criminal type of face. A package of photographs unlabeled and containing photographs of criminals and of great men are given to be sorted into classes. Any person is just as apt to select the photographs of great men for the criminal group and to select criminals for the group of great men.

Scientific meaning of the "born criminal." The only sense in which some individuals are born criminals is that feeble-minded individuals are born lacking in memory and reasoning ability, and therefore are more easily led into crime than are normal individuals. They are incapable of distinguishing between right and wrong and do not build up inhibitions against anti-social acts. Guyer states that:

In some cases, apparently, this lack finds expression in almost any kind of vice or crime into which circumstances happen to lead the individual. In others, however, there seem to be tendencies toward the commission of certain types of crime or vice. Certain family strains are characterized by petty thieving, others by deeds

of violence, and still others by sexual offenses. Certain types of mental defects are closely associated with certain crimes. Thus sufferers from incipient paresis seem particularly prone to commit assaults and larceny; epileptics, crimes of brutality and violence.¹

These specific types of crime, with the exception of sex crimes, are doubtless due mainly to environmental conditions.

Judge Lindsey expressed as his firm conviction after long experience in dealing with juvenile delinquents that delinquency is not inherited but a result of maladjustment. He says:

Not more than eighteen per cent of the inmates of Elmira could be declared abnormal by nature, and not more than nine per cent could be considered naturally criminal. Of the inmates of Caldwell, Rahway, and the House of Refuge, not more than fifteen per cent could be considered abnormal by nature, and not more than 7.5 per cent could be called naturally criminal. At New York Juvenile Asylum not more than 8.7 per cent could be suspected of abnormality of nature, and not more than 2.9 per cent could be considered as naturally criminal; out of a thousand examined not one was declared thoroughly criminal by nature. Of court offenders not more than two per cent were abnormal in the full sense, and, judging from their physical condition, not one per cent were criminal by nature; therefore, of first court offenders, which include children undoubtedly less tainted than court offenders, not more than two per cent could be counted criminal by nature, i.e., atavistic in the sense implied by the Italian School.²

The very widespread notion that some persons are born with predispositions to commit crimes and with physical signs by which they can be detected by any observer has been recently thoroughly exploded. Warden Lewis E. Lawes of Sing Sing Prison, who has spent a lifetime in contact with all types of criminals, has recently given

¹ Guyer, M. F., *Being Well-Born*, Revised Edition, 1927, p. 372

² Travis, Thomas, *The Young Malefactor*, pp. 9-10

expression to facts which forever dispose of the outworn idea. In a recent article "Who is a Criminal—and Why?" he writes:

Who is a criminal—and why? This "double-barreled" question evokes in the minds of most people a man with a receding forehead, a low, beetled brow, furtive eyes, a cruel, tight-lipped mouth, a protruding jaw, large flapping ears, a huge torso, long hairy arms and legs—a sort of human monstrosity for whom crime is instinctive—a born criminal.

Is there such a person in reality? In twenty-four years of prison experience, in which I have come in contact with over 30,000 convicted men, I have never seen a prisoner who fulfilled this description. And yet I read recently of a Supreme Court Justice of New York who was quoted by the newspapers as having stated that there were eight physical characteristics that marked the criminal, to wit: "receding chin, protruding jaw, wide unwinking stare, droop in the left eyelid, low brow, bumpy brow, thick hair, and ears set at right angles to the head"; and that where as many as four of these characteristics were present in an individual there could be no doubt as to the man's criminal nature. A half-dozen well-known men, who have at least five of the eight physical characteristics named, includes the president of a leading American university, a great English preacher, a French general, a Russian statesman, a leading Spanish writer, and one of the world's greatest inventors. I could not help but wonder as I read the Justice's list of characteristics whether he had ever checked them on his fellow-members of the Bench and Bar.

The Justice was further quoted as saying: "If you see a man with a drooping left eyelid or with wide-open, starey eyes, beware of having your pocket picked." In other words, by the Justice's simple system, one can not only recognize the criminal by sight but can also determine at a glance whether one is going to be murdered or only have one's pockets picked. . . .

It is now known to all leading scientists, sociologists, and criminologists that law-breakers are just as normal or abnormal as those who keep the law; that the "born criminal" type does not exist and never has existed. The myth of the born criminal persists because it appeals to the public's imagination and has

been popularized by fiction, by the stage and screen, and by the cartoonist's pen. Show me an American who looks like Uncle Sam or an Englishman who looks like John Bull and I shall grant the possibility of finding a man who looks like the so-called typical born criminal.¹

Undoubtedly heredity is a potent force in determining one's physical and intellectual characteristics. Whether one is white, black, or yellow; tall or short; slender or thick set; are predetermined by heredity. Whether one is bright or dull is not because of good or poor school masters but must be credited to native endowment. But morality—what one does with his abilities—is very largely a result of environment, training, and education. This will be elaborated in a subsequent chapter.

4. YOUTH THE AGE OF BEGINNING CRIME

Projecting the future. Adolescence is not only the time when the great work of the world is projected, but it is also the age of beginning crime. Although many criminals in reformatories are adults, the majority of them took their initial steps in crime during the period of youth. Most of us doubtless have a picture of a jail being filled with grizzled, gray-haired, hardened offenders. A visit to a state penitentiary will dispel that idea. The majority detained there are just a stage older than our college students.

Were it not for the prison garb they would not look unlike the college students. In the state reformatories—including prisons and penitentiaries—the prisoners are required to be tidy. Their clothing is clean, the men's hair is trimmed and their faces clean shaven. As I recently visited a state penitentiary I noted the well groomed appear-

¹ *World's Work*, August, 1928, 56: 394-399. See also *The Literary Digest*, August 18, 1928, for resumé and comments

ance of the prisoners, their clear eyes and good complexions from regular habits of sleep and work. I thought of the boys on our college campus where the fad had been in vogue among the men to don greasy, dirty, unpressed corduroys, to sport the garterless sox and trailing shoestrings. I am sure that if the college boys should don the clean denim overalls and jackets and the prisoners the college garb that we could not tell which were college boys and which the breakers of the law.

Recent United States statistics. All statistics of ages of prison inmates show clearly that most offenders begin their downward career in youth. Despite the fact that a great many are repeaters, the average age is low. The curve of age distribution shows that there are far more in the period of youth and early adult years than of any other age. (See tables XXV, XXVI, XXVII.)

An examination of Table XXVI shows that:

Almost one-third, 32.5 per cent, of the prisoners present on January 1, and about one-fourth, 25.6 per cent, of those committed during six months from January 1 to June 30, were under twenty-five years of age. Of the total adult population, 25.9 per cent were below that age. . . . The percentage of prisoners above the age of forty-five is considerably smaller than the percentage of the total adult population above that age, the percentage being 14.5 for the prisoners present, 23.8 for those committed, and 30.7 for the adult population. . . . Those from twenty-one to twenty-four years of age contributed more prisoners in proportion to their numbers than any other age group, with ratios of 286.7 for prisoners present, and 329.1 for commitments. The ratio of prisoners to population was progressively lower for each older age group above twenty-four years of age. The groups between forty-five and sixty-four years of age had ratios smaller than those between eighteen and twenty, and the ratios of those sixty-five years and over was less than the ratio of those under eighteen. . . .

The habits of most persons become largely fixed during child-

hood and youth. The available evidence shows that most criminals drift into their lawless mode of life as youths, and that with advancing years, dwindling numbers of persons become law-breakers, at least of the habitual kind.¹

The juvenile group. The statistics of juvenile delinquency in the years of preadolescence and early adolescence

TABLE XXV

JUVENILE DELINQUENTS 10 TO 17 YEARS OF AGE ENUMERATED ON A GIVEN DATE IN INSTITUTIONS PRIMARILY FOR THE CARE OF JUVENILE DELINQUENTS AND IN PENAL INSTITUTIONS: 1923, 1890, AND 1880*

Year	Popula- tion 10 to 17 years of age	Juvenile delinquents 10 to 17 years of age					
		Total		In institutions for juvenile delinquents		In prisons and reformatories, jails, and workhouses	
		Number	Ratio per 100,- 000 pop. 10 to 17 years of age	Number	Per cent	Number	Per cent
1923 (Jan. 1)	16,330,713	25,233	154.5	23,003	91.2	2,230	8.8
1890 (June 1)	10,969,203	16,363	149.2	12,550	76.7	3,813	23.3
1880 (June 1)	8,586,107	12,314	143.4	9,990	81.1	2,324	18.9

* Children under Institutional Care, 1923. Department of Commerce, U. S. Bureau of Census, p. 289

are not available in detail for each year of age. The Federal Census lumps all together between the ages of ten and seventeen years. A table giving the total number of such delinquents for the years 1880, 1890, and 1923 is subjoined.

¹ Prisoners, 1923, U. S. Department of Commerce, Bureau of the Census, p. 70

The ratios per 100,000 of population are given and show that the ratio has steadily increased despite better child welfare societies and juvenile courts here and there. The compiler of the Census report remarks:

TABLE XXVI

DISTRIBUTION BY AGES OF PRISONERS PRESENT, JANUARY 1, 1923, AND OF COMMITMENTS TO PRISONS JANUARY 1 TO JUNE 30, 1923*

Age	Prisoners: 1923					
	Present Jan. 1		Per 100,000 popula- tion of same age	Commitments Jan. 1- June 30		
	Number	Per cent distribu- tion		Number	Per cent distribu- tion	Per 100,000 popula- tion of same age
Total	109,075	100.0	151.3	166,356	100.0	230.7
15 to 17 years	2,230	2.0	39.2	3,390	2.0	59.6
18 years	2,997	2.7	156.9	4,146	2.5	217.1
19 years	3,996	3.7	218.2	5,289	3.2	288.9
20 years	4,746	4.4	266.5	5,132	3.1	288.1
21 to 24 years	21,489	19.7	286.7	24,666	14.8	329.1
25 to 34 years	37,336	34.2	217.6	46,605	28.0	271.6
35 to 44 years	20,537	18.8	145.4	37,510	22.5	265.6
45 to 54 years	9,493	8.7	90.4	20,522	12.3	195.5
55 to 64 years	3,690	3.4	56.5	7,658	4.6	117.2
65 years and over	1,284	1.2	26.0	2,285	1.4	46.3
Age unknown	1,277	1.2		9,153	5.5	

* Prisoners, 1923, p. 70, U. S. Department of Commerce, Bureau of the Census

It is somewhat discouraging to find that after forty-three years the number of children in penal institutions, excluding all awaiting court action, is very nearly as large as the total number of children in penal institutions at the beginning of the period. Taking into consideration the increase in the population of the country, con-

siderable progress has been made, but on the basis of actual figures at least as many children appear to have been exposed to the influence of the penal institutions in 1923 as in 1880.¹

Earlier evidences. It is not only in recent years that youth have become wayward. Many think that the World

TABLE XXVII
AGES OF COMMITMENT TO PRISON 1910 AND 1923

AGE	Commitments During the Year						
	Number		Per cent distribution		Per 100,000 population of same age		
	1923	1910	1923	1910	1923	1910	Per cent of decrease, 1910 to 1923
Total	357,493	479,787	100 0	100.0	495.8	768.0	-35.4
15 to 17 years	7,195	11,916	2.0	2.5	126.5	221.8	-43.0
18 to 20 years	31,086	35,119	8.7	7.3	562.9	633.2	-11.1
21 to 24 years	52,766	64,212	14.8	13.4	703.9	891.5	-21.0
25 to 34 years	100,007	129,974	28.0	27.1	582.9	857.8	-32.0
35 to 44 years	80,829	99,023	22.6	20.6	572.4	849.4	-32.6
45 to 64 years	60,838	78,638	17.0	16.4	357.2	585.8	-39.0
65 years and over	4,931	7,718	1.4	1.6	100.0	195.4	-48.8
Age Unknown	19,841	53,187	5.6	11.1			

War was the turning point when the jazz mad world gave free rein to the youth who immediately plunged into criminal ways. The comparative tables for 1880, 1890, and 1923 while showing an increase show clearly that the numbers of youthful delinquents was large at the earlier date. It is

¹ Children Under Institutional Care, U. S. Department of Commerce, Bureau of the Census, p. 290

quite probable, however, that the number of commitments in proportion to the number of crimes is less at the present time than formerly. That is, punishment was far more certain then than now.

Statistics from earlier investigations have some historical interest and corroborative value in establishing the fact that youth is the time of beginning crime. It is not here maintained that criminality is inevitable in youth. But because of the psychological characteristics of youth they may easily fall into criminal ways unless shielded by the right environment and given the right education.

Expressions relating to a century ago. A first reference will be made to some popular ideas expressed a century ago about the wayward youth of that time. They were collected by Principal V. K. Froula for his presidential address before the Washington Education Association in 1927.

As for the censure of the youth, let me remind you that the criticism of the young by their elders has been a favorite pastime. Permit me to give you an example of a lamentation that is as old as the hills, but sounds like an excerpt from a fundamentalist's sermon: "Our earth is degenerate in these latter days. There are signs that the world is coming to an end. Children no longer obey their parents. The end of the world is manifestly drawing near." The clay tablet upon which this inscription was made 6,000 years ago was found by archaeologists somewhere in the Mesopotamian Valley and now reposes in the British Museum with other relics of past times.

Again, in a recent number of the *Atlantic Monthly*, Mr. Archie Butler Hulbert has written an article under the captivating caption "The Habit of Going to the Devil." Every essential fact of his interesting story is a direct quotation or exact paraphrase from American periodicals published a century ago. I shall quote only a few specimens:

"And what of our youth! To-day, where one child hails the Sabbath with delight, as the day for Bible study, one hundred young immortals are growing up in ignorance and sin. The

lamentable extent of dishonesty, fraud and other wickedness among our boys and girls shocks the nation."

"Large numbers of these youngsters belong to organized gangs of thieves and cut-throats and are in the regular employ of old criminals who teach them the tricks of the trade."

Half the number of persons actually convicted of crime are youths who have not reached the age of discretion. Of 256 convicts in the Massachusetts State Prison, 45 were thieves at sixteen years of age; and 127 had, at that age, become habitual drinkers."

"A gentleman passing along the streets of Boston recently overheard a gang of boys while shooting craps. The language issuing from their young lips might well have come from Hell, and even there would have shocked the Satanic proprietor himself."

The last of my illustrations has a wonderfully modern ring: "Silk stockings, curiously wrought with quirks and clocks about the ankles, and interwoven with gold and silver threads are all the rage. Time was when one could have clothed himself from head to toe for what one pair of these silk stockings cost." ¹

Illinois, 1880. In 1880 the Chaplain of the Southern Illinois Penitentiary made the following statement:

Of the total number of prisoners in our prisons in 1880, 711 were under fourteen years of age; 8,984 were between fifteen and nineteen; the number leaped up to 19,705 between the ages of twenty and twenty-four; the number diminished to 16,348 between the ages of twenty-five and twenty-nine, and continued to decrease steadily as the age advanced. Of the juvenile criminals in the same year, 21 were under five years of age; 707 were between five and nine; 6,763 were between ten and fourteen; 6,750 were between fifteen and nineteen; 240 were between twenty and twenty-four, and 54 between twenty-five and twenty-nine. The average age of all juvenile criminals was 14.09 for boys and 14.71 for girls.²

France, 1880. Corré made a careful study of crime in

¹ See Froula, V. K., "Education and Public Morals," *Washington Education Journal*, November, 1927

² Report, 1880

France in 1800 and gives the following table of distribution for 7,473 prisoners under twenty-one. Inasmuch as those over sixteen who are first committed probably are included among adult criminals, the table does not reveal the real number of criminals for the ages between sixteen and twenty-one.

TABLE XXVIII

DISTRIBUTION BY AGES OF 7,473 JUVENILE PRISONERS IN FRANCE, 1876-1880*

Age	Boys	Girls	Totals
Under 8	14	6	20
8 to 10	159	37	196
11 to 12	425	117	542
12 to 14	1214	269	1483
14 to 16	1739	409	2148
16 to 18	1765	385	2150
18 to 20	714	209	923
Over 20	3	8	11

Italy, 1886. Criminal statistics have been carefully compiled in Italy and from that land the following facts are taken to show the distribution of criminals in the various penal and reformatory institutions in 1886.

TABLE XXIX

DISTRIBUTION OF PRISONERS BY AGES IN ITALY, 1886*

Age	Male	Female	Totals
Below 14	1.29%	1.41%	1.35%
14 to 18	6.04%	6.02%	6.03%
18 to 25	13.29%	10.05%	11.67%
21 to 35	46.91%	39.38%	43.15%
35 to 50	23.09%	30.94%	27.01%
50 to 70	8.40%	11.63%	10.05%
Over 70	0.68%	0.57%	0.62%

*Hall, *Adolescence*, Vol. I, p. 326

Thus about twenty per cent of all who make their first ventures in crime are below fourteen and twenty-one years of age. Nearly fifty per cent more are in the later adolescent years, thus making a total of approximately seventy per cent who may be counted as adolescents.

Germany, 1892. In Germany during the year 1892 there were 46,496 persons *under eighteen* years of age who were convicted of crime. Fully forty per cent of all of England's criminal class are under twenty years of age. Corré wrote that in France from 1876 to 1880 as many persons between sixteen and twenty were sentenced as between twenty-one and forty. The eleventh census of the United States, 1890, bore record that there were fifty-eight juvenile reformatories with 14,846 inmates, of which 11,735 were boys and 3,111 girls. The average age of the boys was 14.09 years and of the girls 14.71 years, or an average of 14.23 years.

Comparative figures, 1900. In 1900 Drähms, who was then Chaplain in the San Quentin, California, Penitentiary, collected statistics concerning the proportion of criminals under twenty years old in all the principal countries of Europe and in the United States. The facts are indicated in the subjoined Table XXX.¹

Drähms asserted that "Forty per cent of the convictions in England every year are against young persons under twenty-one years of age. In 1886 the number convicted between eighteen and twenty-one years was sixteen per cent of her prison population; six per cent between fifteen and eighteen; and three per cent between twelve and fifteen years of age."²

Morrison's belief, 1900. Morrison regarded age and the extent and character of crime as direct functions of each other. He wrote in 1900 that:

¹ Drähms, August, *The Criminal*, p. 281

² Loc. cit., p. 273

In the early stages of life the first anti-social impulse which comes into collision with the criminal law is the vagrant instinct. In writing of the habitual and hardened criminal he says, A criminal of this type almost invariably begins his career in early youth. He begins it as a vagrant and petty plunderer of odds and ends; but he finishes his career as the expert burglar and pickpocket who in time of stress does not stick at taking human life.¹

Morrison says that in Europe, Australia, and the United States, the most criminal age is between twenty and thirty.

TABEL XXX
PERCENTAGE OF CRIMINALS IN THE VARIOUS COUNTRIES UNDER
TWENTY YEARS OF AGE

Country	Male	Female
England	27.4	14.5
Holland	22.8	3.7
Belgium	20.8	
Scotland	20.	7.8
Sweden	19.7	17.
United States	10.71	1.06
France	10.	7.6
Austria	9.6	10.6
Ireland	9.	3.2
Denmark	9.9	9.6
Italy	8.8	6.8
Prussia	2.8	2.6

In the United States he places the limiting years for the maximum of crime between twenty and twenty-four.

Iowa, 1903. In 1903 Dr. Cady² made a study of a group of 500 prisoners to discover when they were first committed. The results are indicated in Table XXXI. Nearly one-third began their penitentiary life under twenty, fifty-eight per

¹ Morrison, Wm. D., *Juvenile Offenders*, pp. 60, 83

² "The Juvenile Offender," in *Bulletin for Iowa Institutions*, 1903, p. 453'

cent under twenty-five, and seventy-six per cent under thirty.

Hall's interpretation, 1904. In 1904 Dr. G. Stanley Hall published the statement that:

In all civilized lands, criminal statistics show two sad and significant facts: First, that there is a marked increase of crime at the age of twelve to fourteen, not in crimes of one, but of all kinds, and that this increase continues for a number of years.

TABLE XXXI
AGE OF FIRST COMMITMENT OF 500 PRISONERS IN IOWA

Age	Number	Per cent
Under 20 years of age	150	30.0
20 to 25	140	28.0
25 to 30	90	18.0
30 to 40	70	14.0
40 to 50	24	4.8
50 to 60	21	4.2
60 to 70	5	1.0
Total	500	100.0

While the percentages of certain grave crimes increase to mature manhood, adolescence is preëminently the criminal age when most commitments occur and most vicious careers are begun. The second fact is that the proportion of juvenile delinquents seems to be everywhere increasing and crime is more and more precocious.¹

Statistics by Travis, 1908. Travis wrote in 1908:

The youthfulness of the delinquent, the precocity he displays in delinquency indicate age as a causative element. When does the offender begin his criminal life? If we begin with the older delinquent and pass to the first court offender we can answer this question. At Illinois Penitentiary fifty-eight per cent of the

¹ *Adolescence*, Vol. I, p. 325

inmates committed their first penitentiary offence before the age of twenty-five. At Elmira 89.9 per cent of the inmates were below twenty-five; the indications are that they began their reformatory offences below twenty.¹

When we reach the juvenile proper, we find that 57.5 per cent of the offenders in French institutions were between fourteen and twenty-six years of age, the maximum number being fifteen. Of those arrested at Paris seventy-six per cent were between the ages of thirteen and sixteen. At Jamesburg, N. J., sixty per cent were between thirteen and sixteen, most being fifteen years old, while at the New York Juvenile Asylum most were aged fourteen. Judge Lindsey claims twenty per cent of city boys are arrested between the ages of ten and sixteen. Cady, averaging all the available data, concludes that the average age of the delinquent boy is 14.09 and that of the delinquent girl 14.71. These figures give only the age at which the offender was confined in an institution. But there is almost always a bad record before the delinquent is committed.²

Current beliefs. Richard Washburn Child says that:

The recruits for the new criminal population are not the old-fashioned, unshaven, bulldog-jawed burglars; the recruits are well-dressed dapper boys and girls—from the youth of the nation. A great percentage of our criminals are under twenty-three; and the average age of criminals has been reduced ten years during the last two decades.³

Two youths from this city under twenty-one have just been sentenced to life imprisonment for holding up a drug store and killing a policeman in fully as spectacular a manner as the James-Younger raid. One of the youthful trio is still at large.

Unfortunately the horrible tale is still worse and more ominous. In a large percentage of recent hold-ups, bank

¹ Report of N. Y. State Home, 1904, p. 28; Fifty-first Report N. Y. J. A., p. 50; N. Y. State Reformatory at Elmira, p. 28; "The Juvenile Court at Denver," pamphlet; "Enfants Coupable," Raux, p. 26; "Juvenile Offenders," Cady

² Travis, Thomas, *The Young Malefactor*, pp. 150-152

³ *The Saturday Evening Post*, Oct. 10, 1925

robberies, embezzlements, shop-lifting, dope traffic, stock swindling, check raising, forgery, and the whole catalogue of the foulest crimes including murder, these youthful gangsters have as accomplices comely young women—oftimes “co-eds” in some of our higher educational institutions. Just from memory it is easy to recall nearly a dozen in this city alone during the past few months. Sometimes they are the brains of the gang. Sometimes they play a lone hand.

5. THE INTELLIGENCE OF CRIMINALS

The popular notion. It is quite generally supposed that the great majority of criminals are of very low intelligence—distinctly feeble-minded and moron. The popular idea was given emphasis a generation ago by Lombroso's writings. In 1915 Dr. William Healy published a very important book, *The Individual Delinquent*. In that book (p. 447) he says:

There can be no doubt that separate reformatory or prison populations if tested would show from ten to thirty per cent, or even more, to be feeble-minded.

Dr. Goddard's book, *Feeble-Mindedness*, published in 1914, asserts that:

Although we cannot determine at present just what the proportion is, probably from twenty-five per cent to fifty per cent of the people in our prisons are mentally defective and incapable of managing their affairs with ordinary prudence. A great deal has been written about the criminal type and its various characteristics. It is interesting to see in the light of modern knowledge of the defective that these descriptions are almost without exception descriptions of the feeble-minded.

In studying various institutions he estimated that from twenty-eight per cent to eighty-nine per cent were mentally defective.

Many sociologists caught up the statements of Lombroso, Goddard, and others to support their own beliefs. It is no wonder that the idea should have become crystallized in the public mind.

Changed belief through scientific measurements. Until very recently no exact measurement of the intelligence of adult criminals had been made. Nearly all the observations had been made in juvenile reformatories where, to be sure, a large proportion of the inmates are mentally defective. But it is not correct to conclude that they are typical of all criminals.

A growing skepticism, however, has been developing for some years regarding the earlier interpretations.

Swift was one of the first to call attention to the fact that environmental influences instead of mental deficiency was the great predisposing cause of even juvenile delinquency. He said that:

Two hundred and eighty-five of the 293 boys in the Indiana Boys' (Reform) School had ability which was either fair or "active," while only eight were doubtful. In the Illinois State Reformatory, 353 of the 500 boys included in the last report were of average ability, or above the average, and only 147 were below the average. The Elmira report for 1910 does not classify the prisoners on the basis of mental ability, but an earlier investigation of 17,675 young men who had been in the institution shows that ninety-seven per cent had ability rated as fair, good, or excellent, and only three per cent fell below the average. Fifty-three per cent of the 19,810 young men referred to in the last report of the Elmira Reformatory had never been to school, or could barely read and write. Only four per cent had entered the high school. The remainder had received a common-school education.¹

Of course many criminals are illiterate, but illiteracy must not be confused with intellectual inability.

¹ *Youth and the Race*, p. 109

In a report of the Chicago Parental School the statement is made that eighty-two per cent of the boys in that school had as good ability as other boys and that eighty per cent after leaving the institution maintained a record of efficiency.¹

Investigations made in recent years go to show that seventy-five or eighty per cent of those who are in reformatory institutions would grade in intelligence as fair, good or excellent. . Only about twenty-five per cent are especially low grade intellectually. If all the high grade rascals who are outside of the penitentiaries and reformatories were imprisoned the average degree of intelligence would be very high. The very fact that the high grade rascal is not in the penitentiary shows his shrewdness. He is shrewd enough to keep out of jail. Criminals are foolish but not fools.

Travis says:

That at least ninety per cent and probably ninety-eight per cent of first court offenders are normal and not more than two per cent are criminal by nature. He says Hrdlicka's report of the New York Juvenile-Asylum children did not discover one per cent of natural criminals.²

Murchison's classical study, 1921. Until very recently scientific statistical evidence has been lacking regarding the mentality of criminals. In 1921, however, a remarkable report of a careful, extensive, and scientific investigation appeared. Dr. Carl Murchison³ personally made a study of the intelligence scores of the white male prisoners in the penitentiaries of Ohio, Indiana, and Illinois. He compared their records with those of the white men in the army draft.

¹ *Report*, 1904, p. 46

² *Loc. cit.*, pp. 2-7

³ *School and Society*, June 4, 1921. This study has since been incorporated in a book, *American White Criminal Intelligence*, published by Clark University

The study is of such far-reaching importance that an extended quotation is appended. That study should dispel forever the widespread opinion that the great majority of criminals are low grade intellectually, even largely made up of those bordering on imbecility. Let Dr. Murchison tell the facts:

Occupying cells in the penitentiaries of Ohio, Indiana, and Illinois, are seventy-two college men. There may be more, but out of a total of 3,429 white men criminals examined by the writer of this article came seventy-two bearing the colors of beloved colleges and universities. That is, more than two per cent of the desperate criminals in three great states are college-trained individuals. The significance of this statement may well wring a cry of dismay from all true lovers of higher education. If education is not in any way a contributing cause of crime, according to the law of chance there should not be found more than twenty-five college men in the above group. . . .

In considering the original data gathered for this paper, let the facts of intelligence be examined first. According to the Army Alpha test, offering a scale of measurement extending from 0 to 212, the average intelligence of the American people lies probably between sixty and seventy. According to the same scale, the average intelligence of the 3,429 white men criminals examined is just 64.2. That is, criminals are fairly representative of the intelligence of the American public. However, college people are much superior to the average citizens of the country. The members of the liberal arts college at Miami University have an average intelligence of 132. The same is true of the members of the liberal arts college at Ohio State University. It would be reasonable to suppose that the seventy-two interesting individuals discussed in this paper might have an average intelligence of about 132. But such is not the case. These seventy-two intellectual derelicts have an average intelligence of 155. The least intelligent one in the group measures sixty-seven, while the most intelligent one measures 205. No student or faculty member at Miami has ever succeeded in making more than 198 in the Alpha test, while some students entering here have measured less than

fifty. The seventy-two criminals have an average intelligence equal to that of the highest fifteen per cent of the students in Miami, and equal to that of the highest five per cent of the citizens of the whole country.

Let the nature of crimes committed be examined next. Of the 3,429 criminals examined, seventy-six per cent committed crimes of deceit and played the part of thieves. Of the 3,429 criminals, seventeen per cent committed crimes of violence. Of the seventy-two college men, only three per cent committed sex crimes.

TABLE XXXII
COMPARATIVE INTELLIGENCE OF FEDERAL PRISONERS
AND MEN IN ARMY DRAFT

Letter Grades	Per cent of Army Receiving	Per cent of Leavenworth Prisoners Receiving
A	4.1	5.8
B	8.0	8.8
C+	15.2	16.0
C	25.0	23.8
C-	23.8	20.8
D	17.0	18.8
E	7.1	6.1

Murchison also refers to a comparison of the intelligence scores of 3,368 criminals in the Federal Penitentiary at Fort Leavenworth with the intelligence scores of 94,004 samples of men in the army draft. In each case the raw scores obtained by use of the Army Alpha tests were translated into letter grades, "A" being the highest and "E" the lowest. The distribution is shown in the subjoined table.¹

It is at once seen that the scores of the Federal prisoners are appreciably higher than those of the men in the Army draft. The percentage of high scores, A and B, is definitely

¹ Murchison, Carl. "American White Intelligence." *Journal of Criminal Law and Criminology*, Vol. XV, August, 1924, p. 263. For the original data see *Memoirs of the National Academy of Sciences*, Vol. XV, 1921, p. 800

greater and the percentage of low scores, C-, D, E, is definitely smaller. The percentage of median scores, C, is also favorable to the Federal prisoners. The only grade favorable to the Army is the C+.

To further aid in dispelling the notion that criminals as a class are of low grade intelligence Murchison compared the scores of the guards in a certain penitentiary with those of the prisoners under their charge. He writes:

After hearing the guards in a certain penitentiary describe in condescending terms their ideas on criminals, the author had an opportunity to compare the mental test scores of the guards with the mental test scores of those same criminals. The average score of the criminals was just seventy-five per cent higher than the average score of the guards. The only reason the guards continued to live was because the architects of that prison had done their job well.¹

Some sociologists are coming to recognize that there has been a tendency to overestimate the proportion of feeble-minded among the criminal class. If only juvenile offenders are considered, of course, we may expect to find a larger percentage of individuals with low grade intelligence than among adult criminals.²

As illustration of the growing skepticism of the belief that criminals as a class are feeble-minded an editorial from a large metropolitan daily is quoted.

Since the terms "moron" and "subnormal" gained currency, a peculiar connection has grown up between criminality and mental inferiority. In the discussion of crime, one is constantly struck by the thoughtless formula that lumps "the feeble-minded, the insane, and the criminal" in one class. Heroic measures to check the propagation of "subnormals" are advocated on the

¹ Loc. cit., p. 254

² Cf.—Park, Robert E. and Burgess, Ernest W., *An Introduction to the Science of Sociology*, p. 256

ground that this would reduce the criminal element. No doubt many crimes spring from brutal ignorance. But for one "moron" who is a danger to society there are probably ten highly intelligent criminals who cannot by any stretch of imagination be regarded as mentally subnormal or half-witted. They are only too quick-witted, as the police have occasion to know. The only trouble is that their intelligence is applied in the wrong direction.

The astute "master mind" of a modern ring of criminals might fairly resent the imputation of mental inferiority as a glaring libel. The crimes that are the greatest menace to society are not those perpetrated by an isolated "moron" or a lunatic at large. Burglaries, bank robberies, raids on government mints, efficiently engineered mail robberies and bootleg conspiracies cannot very well be associated with imbecility or feeble-mindedness. To these must be added the large army of swindlers and promoters of fraudulent schemes who have wits enough to cheat the law and keep out of jail.¹

Loeb and Leopold, who committed one of the foulest murders ever chronicled, were not ignorant or feeble-minded. Both were brilliant and highly be-schooled. "Both shrewd and keen, of wealthy and influential families, killed for the sport of it," says Edward Doherty. Both were precocious, abnormally brilliant, each a graduate of one of our greatest universities.

William Edward Hickman, another murderer so depraved that other desperate criminals in the jail at the time of his incarceration loathed and execrated him, is still fresh in our memory. He was an honor student in high school, vice-president of the Kansas City High School senior class of which he was a member only a few months before. The graduation annual said of him "excellent scholastic standing, unequalled record in extracurricular activities and a high standard of ideals." He was also a model Sunday school pupil.

¹ Editorial, *Milwaukee Evening Sentinel*

The following recent expression by Wiles and Winn emphasizes the idea that criminality is caused by emotional unbalance rather than by intellectual deficiency.

Even as recently as fifteen years ago we thought that a large per cent of crime was due to feeble-mindedness. Now we have discovered that it is frequently not our stupidest but our cleverest people who become criminals. We have observed that recidivists (people convicted of more than one crime) have a higher intelligence than first offenders; that among wayward girls on parole, the ones who reform have a lower intelligence than those who do not. Leopold and Loeb were exceptionally brilliant students; Hickman was said to be a leader of his class. Obviously it is not lack of brains that makes the criminals; more often it is emotional maladjustment.¹

A paragraph from Dr. Healy will be quoted in concluding that discussion. His words should carry especial weight inasmuch as he has combined in his preparation and practice, psychology and medicine. His main life work has been in dealing with juvenile and youthful delinquents. He wrote in 1924:

Most people who are confronted by the problem of treating of delinquency in children have to do with mentally normal offenders. He says there used to be considerable newspaper talk about delinquency being caused by some pressure of the skull on the brain. Parents used to convince themselves that they knew what particular knock on the head did it in the same fashion as some parents nowadays come to a clinic attributing a paralysis or other ailment to some fall or head accident which could not possibly have caused the trouble.²

6. CAUSES OF YOUTHFUL DELINQUENCY

Mental expansion indirect cause. Up to near adolescence the great majority of children travel essentially the

¹ Wile, Ira S., and Winn, Mary Day. "Emotional America." *Outlook and Independent*, May 8, 1929. Condensed in *Reader's Digest*, July, 1929, p. 252

² O'Shea, *The Child: His Nature and His Needs*, p. 247

same road of conduct. In the home and in the school they are obedient to the conventional commands requiring a largely stereotyped fashion of behavior. Their manners and morals are largely determined by external authority rather than through individual initiative and personal choice. Most children up to that time are fairly obedient and seldom get into serious conflict with those in authority. Of course, some have much more favorable environment than others and each type of influence leaves its ineffaceable trace. However, nearly all are obedient to the regulations of the home, the school, and the civil law.

With adolescence comes a great expansion of mental power. Rational thinking becomes much more dominant and new and more far-reaching inferences and generalizations are made. Because of limited experience these conclusions are often faulty. Emotions are intense, vacillating, and unstable. Judgment is apt to be warped by surging emotions. Egoism and the desire to appear superlative often lead to actions which are not approved by mature society. The desire to be independent and to do things on his own initiative also often leads the youth to rash action. Generally the first ebullitions are mere errors of judgment, youthful pranks or escapades with no criminal motive prompting. They have merely wished to show that they could do things on their own initiative. If approached in the right way they will generally acknowledge their error. If untactfully criticised, punished or ridiculed they may impulsively decide to try again to convince the world of their superiority.

About this time there develops the native impulse prompting questioning, causing chafing at the restraints of home and school. They become restless and desire to see the world on their own account. If they happen to be sur-

rounded by wise home influences, fortunate in trained teachers, and are given an opportunity for initiative and assertiveness through sports, healthful physical work, and opportunities for playing, the storm and stress time will be tided over safely. On the other hand, if they happen to be in homes where they are constantly reprovéd for every whim, where everything is done for them, they are apt to seek an outlet for pent up energy and the results may be disastrous.

The sudden expansion of the mental horizon usually brings with it a desire to explore the big world and to make conquests for themselves. Not only do they express a longing for enlarged fields of activity but they murmur against restraint and frequently strike out for themselves. Running away is of frequent occurrence, especially among boys. In discussing this subject with my classes I have frequently asked all the men who had never planned to run away during adolescence to raise hands and no one has ever yet given such an expression. Only recently a neighbor's adolescent boy with everything in the way of opportunity for improvement and enjoyment that money could procure and with affectionate parents, packed his satchel and slipped away between two days to go as a common tramp on the brakebeam to a large city some hundreds of miles away. I assured the grief-stricken parents that he would soon get enough of it. Within a few days he was arrested and lodged behind the bars, not because of any crime but simply as a common hobo. Within a few weeks he returned home and to my knowledge has not repeated the experience. He had desired adventure—and obtained it. Parental advice seems much more valuable to him now. Lancaster, in his excellent monograph on adolescence, details scores of similar cases which are typical of adoles-

cent rebellion against authority and restrictions. He remarks that this attitude "is not necessarily a bad sign, unless frequently repeated. The desire to leave school, together with the desire to leave home, is a true and natural impulse to adjust himself to the life which he is already living in his imagination in company with his ideals. Sympathy, not punishment, is the proper corrective."¹

Desire for fun. Often youthful escapades, started as pure fun, are looked upon by the authorities as law-breaking, and the conditions of punishment supply the initial lesson in criminal thinking. Judge Lindsey, formerly of the Denver Juvenile Court, gives illustrations to prove this. He wrote:

I know a certain boy from the slums who was arrested for stealing a bicycle. He sold the bicycle for sufficient money to treat the gang to ice cream. He knew that certain boys on Capitol Hill were taking ice cream from the back porches. He naively said to me: "Judge, if our neighbors were rich enough to keep ice cream on the back porches we wouldn't have to swipe wheels to get money to buy something good." The motives for both of these offences were exactly the same. The methods of gratifying a natural desire for a good time were simply different because of the different environment. The treatment was entirely different. The poor boy who stole the wheel in order to get ice cream lay in a filthy jail for two weeks, charged with a penitentiary offence, and stigmatized and brutalized as a burglar, at the age of twelve, while the boys who went on their neighbors' porches and took the ice cream from exactly the same motive, were looked upon very much as the country boy who goes after his neighbor's fruit. Of course, the poor boy was wrongly treated. Forty others were differently treated and corrected without any jail and are all good boys now. The boy who was thus put in jail did not quit at all. It is simply an illustration of how the State, by its brutal, blind methods of treating these questions in the past, has made more criminals than it has ever reformed, and admonishes us of

¹ Lancaster, E. G. "Psychology and Pedagogy of Adolescence." *Pedagogical Seminary*, July, 1897, p. 25

the necessity for more intelligent and sane treatment of such cases. Of course, such children should be corrected, but at the same time they must be protected. In the Juvenile Court they are not charged with crime at all. . . .

If every boy in the city between ten and sixteen years of age was caught and proceeded against by the one whose rights he violates, or by some officer called upon to enforce the law, for every offence committed, there would be very few who would escape the Juvenile Court.¹

The spirit of adventure is strong in all normal youth. They desire to appear superlative in the eyes of companions. They like to tell of exploits in which they were the chief actors. Of course, they fully expect that their adventures will be successful and they see themselves as the center of admiring groups, listening to their exciting tales. They do not realize that their inexperience and short-sightedness will almost surely cause ignominious failure in their plans. Generally when apprehended, they are arrested, brought before the courts, frequently thrown into jail or sent to a reformatory. What is needed is sympathetic understanding and right education instead of punishment. Once treated as criminals they usually develop an anti-social attitude which marks the initiation into a career of crime. A few illustrations are appended which show the motives that prompt many youthful escapades.

ROUND WORLD FOR THEM MEANS KENT

YOUTHFUL ADVENTURERS, ARMED TO TEETH, PICKED UP BY POLICE

Each was armed with a Winchester repeating rifle, and one, in addition, with a loaded revolver. Their mission was to see the world, when they left home Tuesday night. But they only got as far as Kent. There they were detained by unsympathetic police.

¹ Lindsey, Ben B., *The Problem of the Children and How the State of Colorado Cares for Them*, p. 91

The chief of police said that when he overtook the boys they had just arisen after having found shelter during the night in a vacant barn.

"What would you kids do if a bunch of hoboes were to take your rifles away?" the chief asked the boys.

"I'd pull this and get them back," one lad boasted, and displayed the loaded revolver.

The juvenile detention home now houses the adventurers.

Post-Intelligencer. Seattle, March 2, 1929

JUNIOR SOVIET RAIDED, FORTY CHILDREN HELD

San Bernardino, Calif., Aug. 2.—(I. N. S.)—A juvenile "Soviet republic" in the foothills near here was raided by county authorities to-day and forty boys and girls, mostly of high school age, taken into custody. They were placed under care of juvenile court attaches.

Post-Intelligencer, March 8, 1929

NINE SHEIKS HELD AS ARMED BANDITS

Nine youthful sheiks were held to-day on robbery armed charges as members of a gang of twelve which has perpetrated nearly 100 robberies in Detroit during the last two months. The boys are all about twenty years of age.

Four were arrested last night in an east side poolroom at Garfield avenue and Chene street by an inspector. One of the boys "squawked." Acting on the information obtained, the inspector rounded up five others. Three are still sought.

Detroit Evening Times, May 10, 1929

FAIR-SKINNED TAR FOUND TO BE GIRL

A "sailor" with a rosy complexion, obviously not acquired on the high seas, attracted the attention of a patrolman last night at Third Avenue and Cherry Street.

He accosted the "seaman" and discovered that "his" name was Miss Cecelia ———, eighteen, of California and points north.

She told the patrolman that she was just wearing the uniform for fun, but she was taken to the police station and booked on the charge of disorderly conduct. *Post-Intelligencer*, Aug. 7, 1929.

Faulty home life. One of the most potent causes of juvenile delinquency is the fact that youth are allowed to roam about aimlessly after school hours and especially after dark. The average boy in the average city home has no home work to perform, and in his search for activity and excitement drifts into the street with its manifold temptations. From the time he opens his eyes in the morning until lost in slumber at night, everything is done for him. His bath, his meals, his clothes, his books, his money for amusement, are all provided for him. There is no wood to saw or split, no fence to mend, no cows to herd, no pigs to feed, no horses to groom, no chores of any kind. When does the boy have a chance to share in the family work and cares?

The father is very generally away all day in business and, in winter especially, may not see his boys by daylight from one week end to another. There is altogether too much truth in the story of the boy who said to his mother "Who is that man who sits on our front porch on Sundays?"

Alas! also, too frequently the mother becomes so engrossed with parties, bridge, whist, club work, civic betterment, church affairs, and foreign missionaries, that her days are wholly absorbed and the children are turned over to the school, to servants, and to the street. Social and civic problems should certainly have some of the mother's time, but if the home and her children are not included as her most sacred duties she is missing the supremest opportunity for real social welfare and uplift. To-day there is no feature of social life that needs exalting more than the home. Treatises on juvenile delinquency all show that a very considerable proportion of youthful criminals come from en-

vironments where real home life is either lacking or sadly warped.

A large proportion are orphans, have divorced parents, or parents who are negligent, unintelligent, unsympathetic, and often criminal. How sadly the boy needs the influential companionship and wise guidance of intelligent fathers and mothers is well illustrated by Judge Lindsey. He said that the boy from the so-called "good home" is about as likely to go astray as those from the slums. He continues:

Careless and incompetent parents are by no means confined to the poor. In fact in my experience, the most blameworthy of such parents are among the so-called business men and prominent citizens. They seem to think their duty has ended when they have debauched the boy with luxury and the free use of money. They permit him to fill his life with a round of pleasure, and let him satiate his appetite without knowing what he is doing or whither he is drifting. They are too busy to become his chum, or companion, and so he soon develops a secret and private life which is often filled with corruption, and because of his standing or influence and money, he may be kept out of the courts or the jails but nevertheless is eventually added to society as a more dangerous citizen than many men who have been subjected to both. . . . The idleness, ease, and corruption wrought in society generally by such boys and young men, and the consequent suffering and misery, is infinitely more inexcusable, more general, far reaching and dangerous than that wrought by average thieves and burglars, or the class of boys who are degenerated by opposite conditions, such as lack of nourishment and sufficient money to enjoy any of the common pleasure of life. Our most dangerous citizens are by no means confined to those who are or have been in prison.¹

That the passing of the old-fashioned home is responsible for much of crime is believed by many jurists of long experience in the criminal courts. Judge Kirkham Scanlan, chief

¹ Lindsey, Ben B., *Loc. cit.*, p. 93

justice of the criminal court in Chicago, said recently in addressing a branch of the Chicago Medical Society that among the reasons for the increase in crime the "first is the passing of the old American home. The old American homestead, with its training in religion, was the finest and best factor in keeping down crime this country has ever known. As an institution it is fast falling into decay, with a resultant increase in crime."¹

Broken homes are responsible for large numbers of juvenile delinquencies. I have been told by some city teachers in the grammar grades that as high as fifty per cent of all the children in their rooms were from broken homes. In some cases the children were orphans, in others one parent was dead. In many cases the home was broken by desertion or divorce. In thousands of homes children have never known domestic happiness. They have been constant witnesses of quarrels, profanity, drunkenness, debauchery, infidelity—in fact of almost every crime in the decalogue. What could be expected of children so steeped in anti-social ideals from the days of innocent babyhood?

Judge Adam Beeler of the Seattle Superior Court regards divorce as one of the frequent causes of waywardness of children. He says:

When children are involved, divorce is a luxury. A luxury because it frequently destroys the children and always handicaps them. Parents should not purchase their matrimonial freedom at the expense of blemishing the children. The cost is too great. The law of compensation works with unerring accuracy. Emerson once said: "One cannot harm or wrong another without suffering harm." This is vitally and doubly true where children are involved. Statistics irrevocably prove that the husband and father is the one that usually fails to measure up to his parental duty. Many a noble mother and wife bears the yoke of domestic

¹ Reported in *Minneapolis Journal*, March 4, 1922

infelicity without protest and in silence to prevent the children from being scarred and scattered and ultimately falling into an abyss of destruction.¹

Parental standards often low. Outside of the changes occurring in the youth himself, there are many factors that stimulate and encourage criminality. Chief among these are the object lessons in crime all about him and the attitude of adult society toward law breaking. Toward the infraction of many laws there is not only a feeling of apathy, but even a feeling of exultation if the law breaker is successful in not being caught. Take, for example, the attitude toward cheating the railway company out of fare, betting on elections, gambling generally, disobeying poolroom ordinances, breaking roadhouse regulations, exceeding the speed laws, disobeying traffic signals, bootlegging, and evasion or misrepresentation of taxes.

Then many children in the home hear their elders boast over sharp practices in business, deceit and even flagrant lying in business and social relations. The movies continually portray crime and wickedness in such a manner as to make them attractive and to challenge the wits of young people to try their hand at the same things. The daily press and especially certain types of magazines abound with tales of crime that seem like enticing adventures. What wonder that the minds of youth become inflamed with visions of daring and adventure and that oftentimes, in their immaturity and uncritical judgment of values and consequences, they entirely overstep the bounds of right and even decency? So eager do they become for thrills for themselves and shocks for others that they disregard all limits in their search for superlative experiences. In extreme cases like Loeb's, Leopold's, and Hickman's, they become

¹ *Seattle Star*, January 29, 1929

totally perverted in their search for "the most perfect crime," the one that shall overtop all others in coldly calculated minuteness of detail and heinousness of execution. They revel in anticipation of the overwhelming shock to society because of the records broken by their "master mind."

Lack of play opportunities in congested cities is one of the most prolific causes of juvenile crime. One of the most striking accounts of this has been furnished by Goldmark¹ from which liberal quotations are made. She reports one urchin who said, "I've been taken up two or three times for throwing stones and playing ball, but they never took me to the station house yet. You can't play baseball anywhere around here without the cops getting you." . . . This situation shows very definite results in the boy. Gradually his play becomes more and more mischievous as he finds it easier to evade capture. Boylike, his delight in wanton and malicious destruction is increased by the knowledge that he will probably escape punishment.

The following list of offences as classified by the Bureau of Social Research and reported by Miss Goldmark shows the triviality of most of the offences for which juvenile offenders in the cities are arrested. It is at once apparent that the majority of offences had their origin in the play impulse.

Offences of Vagrancy and Neglect: Truancy 38; Begging 3; Selling papers at ten years 18; Selling papers without a badge 5; Runaway 7; Sleeping in halls and on roofs 6; Improper guardianship 12; General incorrigibility 23; Total 112.

Offences Due to Play: Playing ball 20; Playing cat 3; Playing shinny 2; Shooting craps 26; Pitching pennies 9; Throwing stones

¹ Goldmark, Pauline, Director, West Side Studies, section on Boyhood and Lawlessness, pp. 10-23

and other missiles 44; Building fires in the street 15; Fighting 6; Total 125.

Offences Against Persons: Assault 5; Stabbing 4; Use of fire-arms 3; Immorality 0; Intoxication 1; Total 13.

Offences Against Property: Illegal use of transfers 1; Petty thievery 58; Serious thievery 18; Burglary, i.e., breaking into houses and theft 36; Forgery 0; Breaking windows 4; Picking pockets 2; Total 119.

Offences of Mischief and Annoyance: Upsetting ash cans 2; Shouting and singing 6; Breaking arc lights 3; Loitering, jostling, etc., 12; Stealing rides on cars 4; Profanity 1; Total 28.

Unknown 73; Total 470; Deducting duplicates 7; Grand total 463.

Not only is this table extraordinarily interesting in itself, but its importance to our investigation is inestimable, because it brings out certain features of the problem with a vividness which could not be equaled in pages of discussion or narrative.

On the one hand, it is noticeable how large a proportion of the arrests are for offences which are more or less excusable in these boys. Almost every one of their offences is due to one of four causes; neglect on the part of the parent, the pressure of poverty, the expression of pure boyish spirits, or the attempt to play. . . .

Streets, roofs, docks, hallways—these, then, are the West Side boy's playground, and will be for many years to come. And what a playground it is! Day and night, workdays and holidays alike, the streets are never quiet, from the half-hour before the factory whistles blow in the early morning, when throngs of men and boys are hurrying off to work, to still earlier morning hours when they echo with the footsteps of the reveler returning home. All day long an endless procession of wagons, drays, and trucks, with an occasional automobile, jolts and clatters up and down the avenue. Now and then an ambulance or undertaker's cart arrives, drawing its group of curious youngsters to watch the casket or stretcher carried out. Drunken men are omnipresent, and drunken women are seen. Street fights are frequent, especially in the evening, and, except for police annoyance or when "guns" come into play, are generally regarded as diversions. Every crime, every villainy, every form of sexual indulgence and perversion is

practiced in the district and talked of openly. The sacredness of life itself finds no protecting influence in these blocks. There is no rest, no order, no privacy, no spaciousness, no simplicity; almost nothing that youth, the city's everlasting hope, should have, almost everything that it should not. . . .

What chance has the best of boys who must spend two-thirds of his school days in such a playground? What wonder that he becomes a callous young criminal, when the very conditions of his play lead him to crime?

Every day the Middle West Side bears witness to the truth of the saying that "a boy without a playground is the father of the man without a job."

Delinquency among girls in cities because of lack of normal play expression is very vividly depicted by Miss True. In her chapter on "The Will to Play" she states:

A girl from fourteen to eighteen is about as unstable and kaleidoscopic as any quantity in nature. She is changing, almost from day to day. It may be that poverty in her home has deprived her of her full share of youth's vigor and supreme physical well-being. Even so, she keeps its impatient desire for action and experience. She feels its disdain of restraint and hindrance; its zest for swallowing life in hot, hasty gulps. The desire to play is strong in her. Lack-luster resignation and pessimism are rare among the young even where poverty weighs most heavily. The girl's buoyant spirit breaks loose at the instant of release from factory walls or from the momentary depression of family want. It bubbles forth in girls' laughter and girls' play, and in girls' capricious, whimsical, egoistic moods. . . . In all her pleasure-loving, drifting adventures she is hunting steadily for the deeper and stronger forces of life. Into her nature are surging for the first time the insistent needs and desires of her womanhood. But this she does not know. She is the daughter of the people, the child of the masses. Athletics, sports, diversions, the higher education, will not be hers to divert this deep craving. She is not close enough to her church for religion to control it. It will stay with her, sweeping her inevitably out of the simplicity of little girlhood into the thousand temptations of her environment,

if not, perhaps, into one of the commonest of neighborhood tragedies.

Just now her search is translated very lightly and gaily into the demand for "a good time" and a keen interest in the other sex. She prosecutes it with the imperious heedlessness of her age. Her haphazard and inconsistent training has given her little of the art of self-control. The city bristles with the chances she longs for "to have fun and see the fellows." What is to come of this depends on the unformed character of the individual girl, the oversight of her family—sometimes effective and sometimes not—and, most of all, on chance.¹

Better play facilities being provided. Happily authorities are coming to recognize that play is a normal impulse and that opportunities for its expression in childhood and youth are necessary factors in education. Cities are providing generously for recreation parks, bathing beaches, natatoriums, skating rinks, and other means of recreation. The Y.M.C.A., Y.W.C.A., Boy Scouts, Camp Fire Girls, and other organizations are supplementing public facilities for recreation and wholesome enjoyment. Business houses and factory owners are also recognizing the importance of affording their employees opportunities for wholesome diversion during their leisure hours. They are coming to recognize that it is good business enterprise as well as civic uplift to do so.

In every modern school building program gymnasiums, baseball diamonds, football gridirons, basketball floors, tennis courts, band and orchestra rooms, stages for dramatic arts, and even dancing floors are as regularly considered as class rooms and laboratories. Frequently from five to forty acres are being provided in connection with each new school building in the smaller and intermediate sized cities and

¹ Goldmark, Pauline, *West Side Studies*. Section on "The Neglected Girl," pp. 57-59

even in the suburban districts of great metropolitan cities. This topic is developed more fully in the chapter on character education.

Effect of city life. The towns are the real breeding places of youthful criminals. Juvenile court judges say that the country contributes almost no candidates for the juvenile court. Cities furnish juvenile criminals partly because there are so many slum districts where poverty and the hard, grinding conditions of life impel toward crime because of the struggle for mere self-preservation. Under such conditions of life education is at a low ebb and illiteracy and crime usually develop together. Again the proximity of the adult criminals that infest the underworld of the great cities furnishes such ever present and striking examples that inevitably imitation by the youth occurs.¹

Illiteracy. One of the greatest causes of delinquency is ignorance. A large percentage of the inmates of our jails and reformatories are ignorant and largely untrained. All studies of criminology emphasize the fact that there is a high percentage of illiteracy among criminals. As shown elsewhere, the great majority of criminals begin their careers of crime in early youth. They have either never attended school or they play truant and terminate their school career very early. Their lack of education and consequent illiteracy are both a result and a cause of crime. Through illiteracy they remain ignorant of laws, institutions, and social customs. Soon the lack of knowledge breeds lack of sympathy and they come to think that the hand of society is raised against them. They become careless or revengeful and crime is the inevitable result.

The age of compulsory school attendance should be raised from sixteen, which is the average in most states, to twenty

¹ *Elements of Child Protection*, p. 219

or twenty-one with opportunity to attend schools suited to individual needs. Some would go to the old-line schools, some to professional schools, and still others to trade schools. Part-time work should be allowed and encouraged. By that means many would be enabled to earn a livelihood and at the same time remain in school under desirable surroundings.

Truancy. One of the most frequent antecedents of crime is truancy. Boys frequently, and girls occasionally, who are in no way interested in their school work, play hooky and seek excitement through other channels. Often they do not intend to do wrong but their wanderings take them into out-of-the-way places where loafers and criminals are apt to congregate. Then the very freedom from the usual restraints makes them daring. They wish to appear tough and bold in the eyes of their fellows and before they realize it they have "swiped" an automobile, held up a gas station attendant, pilfered a church, or pulled off a burglary. Once initiated and escaping without detection, they are thrilled by their accomplishment and repeat the offence. Of course, most of them are soon apprehended, but too often the damage has been done, never to be repaired. They are stigmatized and suspected and they vow revenge, only to be caught again soon and branded as habitual criminals.

Sex perversions and crime. According to Dr. Lilburn Merrill, formerly Diagnostician of the Seattle Juvenile Court, perverted sex interests are responsible for the development of many cases of juvenile delinquency. The perverted sex interest "profoundly affects the intellectual processes. . . . The subjects were noticeably inclined to lag along in intellectual development with only such a maximum of effort as their environment demanded. This apathetic state of mind kept them below the level of alertness and agreeably favored their indolence. Such inertia, being physi-

ological in character, is as little amenable to compulsion as though the disinclination were due to amentia."

A great many of the cases studied by Merrill were clearly the results of bad environment and hygiene, and the retarded mentality doubtless a result of the sex practices inasmuch as better hygiene produced great improvement in many. The apathy of mind led to such misdemeanors as nomadism, loitering, and indolence, 28 cases; dishonesty 18; truancy 9; disorderliness about the community 2; irritability of temper; and disobedience at home 2; vulgarity on school grounds 6; sexual misconduct 6.¹

Influence of ductless glands exaggerated. A great deal has been written in recent years regarding the influence of the endocrine or ductless glands. It is claimed that they not only exert a tremendous influence upon growth, but also upon the development of sex functions and upon behavior. Many experiments have been made by scientists to determine whether extracts of various glands can produce definitely controlled results. Many extraordinary claims have been made by physiologists, psychologists, and physicians, regarding their functions and their relations to growth and conduct. The newspapers are full of advertisements of gland extracts, and drug stores have done a thriving business in selling them. Many quacks have also coined money by transplanting glands.

One may seriously question how much has actually been accomplished. There is no evidence that the imbeciles encumbering society are being transformed or that dwarfs are being made normal or that giants are increasing in number. A much more temperate statement comes from the pen of Dr. William Healy who writes:

¹ Cf.—Merrill, Lilburn. "Sexualism Among Delinquents." *Journal of Delinquency*, November, 1918, 3: 255-267

Some day we may know much more than is at present known about the glands of internal secretion, the thyroid, pituitary, thymus, suprarenal, and other glands, which unquestionably condition many features of our physical, intellectual, and emotional life. At present the best authorities insist that much of what is stated popularly concerning the relationship of the activity of these glands to conduct trends is either very weakly founded or has no basis at all in known fact. Commercial interest has led to exploitation of the subject. We shall have to wait for much more scientific research before we can be well on the way in this method of control of human behavior tendencies.¹

Crime due often to mental unbalance. Many cases of crime, especially premeditated criminal acts, are undoubtedly due to obsessions that individuals have long held. The particular insistent idea may be of relatively recent development, but it is usually one of a train of ideas that has been incubating for some time. Generally the individual who deliberately commits murder, theft, embezzlement, forgery or the like, has an anti-social complex. He has come to the belief that society has wronged him or has not given him a chance and that he has a right, even owes it to himself and others, to demonstrate to the world his ability to succeed. This complex grows and continually ways and means are studied and devised. These people generally delude themselves into believing that they are justified and that they will escape detection.

The whole mental attitude is akin to insanity. In fact, may it not be considered as insanity? Of course, such offenders should not escape responsibility for their actions. Neither should those commonly termed insane be absolved from responsibility. Both types should be segregated from society until normal balance is restored. Both types need re-education. Many insane persons need to become aware

¹ O'Shea, *The Child: His Nature and His Needs*, p. 238

that they themselves are responsible for the insanity. Of course, this does not apply to the hopelessly unbalanced.

Healy, who has had much experience with the criminal class and is one of the most scientific psychiatrists, gives expression to the same interpretation. He says:

Go to any reformatory and pick out any fellow who is a repeated offender and ask him to think hard about why he gets into trouble again and again. He will tell you how criminalistic ideas come to him through environmental influences. A sample answer is: "They ought to have known when they let me out on parole that I couldn't go back and listen to that corner gang without getting into trouble again." One youngster said: "It's no use my going back home to that street; it gets in my mind. Even the houses there call out for me to steal."¹

Healy's article has been carefully analyzed and reviewed in a recent number of *The Literary Digest* from which an extended excerpt is appended. The reviewer heads the report, "Why we Steal—Or Kill." The analysis follows:

The shoplifter steals because she thinks about shoplifting, perhaps planning it for a long time, or perhaps impulsively giving way to an idea derived from her environment, or from seeing some one else successfully steal in the same way, or from what she has been taught or has read. The young city bandit gradually gathers his thoughts of criminality from suggestions from companions, or from what he reads in the newspaper, until crime becomes in his mental life a major consideration. In other cases the commission of crime becomes an obsession that cannot be resisted, until, as in the case of an unfortunate cited by Dr. Healy, the obsession which might have been cured by other means is finally cured by electrotherapy—in the electric chair.

In Dr. Healy's own words:

Even in what seem the most exaggerated cases of bare, unpremeditated impulse, a set of ideas previously held gives rise to the

¹ Healy, Wm. "The Mental Factors in Crime." *Mental Hygiene*, Vol. 12, Oct., 1928, p. 768

action, as in the instance where a boy of good family on a normal errand suddenly seizes a stranger's suitcase and makes off with it. . . . It seems hardly necessary to bring up again the well-known fact that the anti-social tendencies of even the professional crook can be traced far back to childhood influences, and that they steadily grow as the result of unfortunate ideational life. . . .

It is sense to inquire, in particular, what a prison environment does to the incarcerated offender. As one of America's best known bank burglars once said to me with a knowing look, when I asked him what he and his kind think about while in prison: "What the hell do you think we think of?" Persuaded to go further in explanation, he told further of the planning to do a better job next time, of thoughts of forming comradeships for new crime, of scheming how to induct in secret ways younger fellows into the trade.

Judge Marcus Kavanaugh, of the Superior Court of Chicago, recently brought out the same idea regarding the obsessions of the criminal. In untechnical psychological language he wrote with telling effect that:

Nineteen-twentieths of the criminals are mentally equal to the average citizen. He has a lowered standard of all spiritual values. His mind works logically but his heart has gone wrong. He has infected his soul so that he looks with twisted vision upon his ordinary adjustments, just as a man who wears inappropriate glasses sees the objects around him all awry. His eyes are all right, but his glass lens is not properly focussed. Gradually he becomes a bad husband, a worse father, a dangerous citizen. A mean action of to-day is the child of a mean impulse tolerated yesterday, and the grandchild of a mean thought indulged in the week before. . . .

Yesterday, after sentencing a man I asked him good-naturedly and familiarly, as is my habit, a few questions with which to probe the depth of his intent. I had done my worst—he had no further fear of being frank with me. The dialogue may have value!

"Clyde," I said, "isn't it a pity that a bright young fellow like you should waste himself as you are doing? Why don't you go to work?"

"Well, the world owes me a living, whether I work or not, doesn't it?" he grinned at me.¹

It requires only a little reflection to trace out the source of most of these criminalistic obsessions. A little acquaintance with the gangs around the old livery stable, the lumber camp, the village depot, the freight car yards, the pool halls, the road houses, and various rendezvous of armies of modern idle youth will easily suggest where many of the evil ideas were incubated.

What else but criminal impulses could grow out of most of the comic strips and the movies which extol the smart aleck who shatters all the laws of decency, right and justice, and escapes just punishment for his misdeeds? The moral filth which reeks from most of the movie reels can not fail to besmirch the clean and innocent minds of the hordes of children and youth who congregate nightly to absorb the poisons brewed by perverted minds. All this is allowed and encouraged in the name of business!

Healy says:

Even in the mentally defective it is some specific idea or picture in the mind that leads to the misconduct. We might instance, perhaps, the remembrance of pleasure to be derived from the possession of money or other things as inciting the feeble-minded boy or girl to steal. Without such thoughts developed there is no stealing. Or truancy, or running away from home, or indulgence in bad sex practices—typical delinquencies of the feeble-minded—what are these but response to some mental picture or idea of pleasurable return?²

Crime prevention through worthy ideals. As an offset to the development of criminalistic obsessions, as a purely preventive measure, the mind should be filled with worthwhile thoughts and ideals. Education should be such as to

¹ *Seattle Post-Intelligencer*, Sunday, Dec. 21, 1924

² O'Shea, *The Child: His Nature and His Needs*, p. 242

preempt entirely the mind with noble thoughts instead of anti-social obsessions. We tend to become what we idealize. If a boy idealizes worthy companions, fine characters from history and literature he tends to become like them. If he idealizes and idolizes degraded companions or debasing characters from the movies or the trashy literature he tends to become low, debased, and degraded. The whole subject will be more fully developed in the chapter on character education.

In summary. Criminality, like insanity, is primarily due to functional causes. The individual acquires wrong ideas regarding himself and his duties and obligations to society. He becomes mentally unbalanced believing that society owes him a living or he fancies that society has done him an injury which he is justified in personally avenging. Criminality is an attitude of an individual toward society, usually a distorted anti-social, emotional attitude. How education should seek to forestall such attitudes by preempting the mind with desirable social attitudes will be the problem of the last chapter. The immediately following pages will discuss some of the facts regarding widespread crime waves.

7. WHY SUCH WHOLESALE CRIME WAVES?

Organized gangs and racketeers. Charles Francis Coe in a recent article entitled "Why Crime Waves?"¹ pointed to some startling conditions regarding the amazing spread of crime. He showed conclusively that criminals are becoming organized as never before. There is much of the "chain store" and "merger" plan of organization among those who are preying upon human society. These gangs, racketeers,

¹ *Saturday Evening Post*, March 17, 1928

and what not, are not all denizens of the underworld. Some one has said that it is not a "wave" but a "flood!" Coe says, "In their membership you will find some exceptionally clever legal minds. Under the direction of swindlers are to be found all classes of criminals—the gunman for the rough work, the burglar for pay-roll stickups and store robberies, and the swindler for planning out carefully in advance each step to be taken in a contemplated crime."

Police and criminal organizations. The recent accounts of the blackmail and strong arm methods of the racketeers in many of our great cities all corroborate the findings of Mr. Coe. Apparently the only way that some men can continue in business or to escape with their lives is by paying tribute and obeying in every detail the orders of the racketeers. Victims of the organized gangs will seldom testify against the criminal because they know it means the ruin of their business and the probable death of members of their families. The police seem utterly helpless to protect or disinclined to do so because of collusion with the racketeers. In one of our great cities recently when one of the boldest of their gunmen was killed he was given a public funeral rivaling in lavish decorations and open sympathy the obsequies of a great public benefactor such as might be accorded to a Governor or a President of the United States.

Methods of selecting juries. Another source of the miscarriage of justice is the senseless method of selecting juries. So many classes of persons are excused from jury service that the most capable are never found on juries. To an alarming extent the selections are from those who make a business of getting on juries for the little pay secured. The custom of challenging on the basis of having read or heard of the case is ridiculous. Often only those too ignorant to read whose judgment should be considered as worthless are

accepted. Senator Norris is quoted as saying that those who read are automatically eliminated. Richard Washburn Child comments upon this system in no uncertain terms: He says:

Without mincing words, the conclusion of anyone who searches the United States for the causes of our scandalous crime record must be that one of the guilty elements is the law itself. . . .

The choosing of the jury has become a ridiculous proceeding. In the Shepherd trial in Chicago, in June, 1925, the examination of the jurymen consumed three weeks and three days. How many persons were examined for the jury? Nine hundred! . . .

Judge Alfred J. Talley, of the Court of General Sessions in New York, tells me that he believes the truth of the matter is that the general spirit of lawlessness even enters the jury box, causing juries to disregard facts, and he believes the only cure for the criminal menace of our institution is in an aroused public opinion. . . .

In face of the failure of the law to revise antiquated practices, the Cleveland Association for Criminal Justice says: "The most conscientious and efficient prosecutor cannot secure a conviction. and the most high-minded judge cannot properly sentence a convicted criminal, unless a jury finds him guilty of the crime committed. Too much stress cannot be laid upon the duty of the public to serve conscientiously and thoughtfully upon juries."¹

Legal tricks in securing one way sympathy. Certain tricks of the lawyers in working upon the sympathies of jurors are also most reprehensible. Richard Washburn Child said of the evils of our present day system of court procedure in trying criminals:

Who appears, pale and suffering, before the eyes of the jury accompanied by weeping wife and little ones? Not the honest one who has been shot down. No! The criminal. Whose pathetic life story is told by the attorneys? Not the pathetic life story of the victim. No! The criminal's. Whose attorneys, friends, relatives appear dripping tears into the laps of governors or parole boards? The criminal's. The prosecuting officer is not there.

¹ *Saturday Evening Post*, Oct. 24, 1925, p. 25

The police are not there. The old mother, the widow, the little children of the victim, are not there. The witnesses seeking mercy are the criminal's witnesses, sometimes professional "old mothers" hired for the day. The victim is not represented, the young boys and girls, who are entitled to the example of punishment for wrongdoing, are not there.

As one judge said to me. "The criminal's psychiatrist is there to say that the criminal is a mental defective, a neurotic personality, a borderland case, an abnormal psychic idiosyncrasy, and that he should be given a round trip to Bermuda to remove his complexes." Everyone needed is there—except the state and the victim. And to a certain degree the one-sided emotional barrage is launched against juries hand-picked by the defense. Everyone is familiar with the success of defendants whose affluence allows the expenditure for sufficient ammunition to conduct a maximum of emotional barrage.¹

Crimes committed by public officials. When men of education, occupying high positions of dignity and trust, violate the law what a stimulus to the ignorant and poor to disregard the sanctity of the law. To-day's paper told of the deputy prosecuting attorney being landed in jail for driving an automobile while drunk and crashing into a standing street car. He is a State University graduate in law, a brilliant man, and was honored in college by many coveted positions. He was just entering manhood when chosen to this high office and sworn to defend the State which nourished him against all law breakers. Even the attorney general of one great state has been several times accused and arrested for driving an automobile while intoxicated. The governors of two great states have been convicted of graft and corruption in offices, both have served penitentiary sentences and one now still languishes in the state's bastille.

We need only to remind ourselves of the recent Teapot Dome oil scandal, the stench of which still offends the dignity and honor of all fair-thinking citizens. When such

¹ Loc. cit., Oct. 24, 1925, p. 206

brazen looting of the public domain is carried on by those entrusted to guard our sacred heritage, what can we expect of the common hobo who bums a ride to take him to new fields of petty depredations? Which is the greater menace to civilization? What can be the effect upon the minds of plastic youth when surrounded by those so callous to the obligations to society?

Popular apathy toward punishment for crime. Professor Ross lays the blame squarely upon the American people themselves for permitting crime to grow so rampart. He wrote in 1926:

We Americans are proud—and justly proud—of our child-welfare work, our public-health achievements, our common schools, state universities, community playgrounds and public parks. But if we hold our heads high on their account, how we are bound to blush at our failure to cope with serious crime! Our growing volume of unpunished or ill-punished crime casts grave doubt upon our competency as a people. It is the worst blot on our record, the greatest stumbling-block to the spread of American ideas and institutions among other peoples. . . .

The secret of our excessive criminality should be sought *in our manner of dealing with the ill-disposed element in society.*

Here we put our finger on the weak spot. A study made of the outcome of 114 homicides in the latter half of 1922 showed thirty-five in the penitentiary, one paroled, one fined, and one hanged. Had these homicides occurred in Great Britain, twice as many would be "doing time" for them, and at least twenty-five would have been hanged. The simple truth is—never was the old adage, "*The way of the transgressor is hard,*" less true than it is among us to-day. Collectively we seem to be losing the instinct every animal has of recognizing and resisting its natural enemies. Played upon by artful criminal lawyers, juries have become so sentimental that they have lost all sense of the phrase "just deserts."¹

¹ Edward Alsworth Ross. *Introduction to Criminology and Penology* by John Lewis Gillen, p. ix

Dr. Mabel Willebrant, former Assistant Attorney General of the United States, relates vividly how the denizens of the underworld have allied themselves with politicians in the past to attain their nefarious ends. She says:

My memory is not so short that I do not recall the old alliances between the brewers, distillers, and saloonkeepers on the one hand, in the days before prohibition, and the professional politicians on the other hand. The liquor interests financed city and state campaigns; they controlled city councils, county boards of commissioners, state legislatures. They "headed off" through their political allies early-closing-hour ordinances, Sunday-closing laws applying to saloons, local or county option measures, and higher-license ordinances and laws. The saloonkeepers, the brewery owners, the whiskey wholesalers were always willing to "chip in" to help elect a county or state's attorney, a member of the Legislature, or the City Council, who would be broadminded, as they termed it, on the liquor question.¹

Escape through legal technicalities. Judge Marcus Kavanaugh, of the Superior Court of Illinois, attributes the appalling prevalence of crime in this country to the many loopholes in the law and to the maladministration of all criminal law. His high position is indicated by the fact that he was recently chosen as delegate from the American Bar Association to Europe to report upon the better administration of the criminal law in Europe. He wrote in a syndicated article:

In a previous article in the Hearst papers I told of the 8,500 homicides in the United States every year while in England there were thirty-five and in France less than fifty. . . . There are about 135,000 murderers now at liberty in the United States The records of forty-eight American cities, containing a population of 18,000,000, disclosed in a single year 12,365 robberies, 8,211 burglaries and 2,499 homicides.

In England and Wales for the same year there were 211 cases

¹ *Seattle Times*, Aug. 6, 1929

of robbery reported to the police. Still more significant, in France of the same year 121 persons were brought to the courts of assize for trial for robbery, ninety-four being convicted and twenty-seven acquitted. In a great American city the results of a similar number of cases would be about ten convictions, seventeen releases on probation and ninety-four either set free or their conviction reversed on appeal to a higher court and the prisoner subsequently discharged.

Now the amazing thing about this deplorable situation is that the American people are no more given to murder and robbery than the people of England or France or Germany. The prevalence of unpunished crime in this country is due very largely to the members of my own noble profession—the lawyers who are in majority in all our state legislatures; the lawyers who practice at the criminal bar, and the lawyers who sit as judges. They have made our criminal laws a tangled maze of technicalities, which obstruct, often delay, and many times defeat justice.¹

An extreme case was recently reported in *The Dearborn Independent*.² The State was able to prove that the defendant killed a man in jealous rage, but as no witness was brought to testify that the murdered man had ever lived, the murderer was freed. "Truly," as one jurist has said, "it is difficult to commit a legal crime!"

As early as 1908 Mr. Taft, then President, is reported to have said in an address before the Civic Forum in New York that "The administration of criminal law in this country is a disgrace to our civilization. The prevalence of crime and fraud is due largely to the failure of the law and its administration to bring criminals to justice."³

In 1926 the Report of the National Crime Commission submitted to the American Bar Association, recommends some needed changes in the penal laws of all states. The statement is made by Chairman Herbert S. Hadley, who

¹ *Seattle Post-Intelligencer*, April 5, 1925

² December 15, 1923, p. 8

³ *Signs of the Times*, July 11, 1922, p. 11

is chancellor of the Washington University at St. Louis, that ninety per cent of those guilty of major crimes in this country are not apprehended and punished. Approximately seventy-five per cent of those apprehended and prosecuted for major crimes escape the minimum punishment provided by law. One of the principal causes for this miscarriage of justice is found in the archaic system of criminal procedure.

Chief Justice William Howard Taft, of the Supreme Court of the United States, is reported in a recent interview in the *New York Evening World* to have warned that there are "Breakers Ahead" caused by the great crime wave. The reported interview follows:

The most disturbing element in our national life is the materialistic philosophy which places wealth and worldly success ahead of every other consideration in life. What can it profit a man to have accumulated millions if he has not at the same time maintained a clear conscience and acquired the good will and esteem of his fellow citizens?

Next among the problems which unquestionably threaten our civilization is that of the organized crime that is threatening every large city in the country. The aftermath of war, which made the destruction of human life a commonplace, and the great profits to be gained by preying upon our post-war prosperity, have combined to create a system of organized crime which should arouse every responsible American citizen.

The nation does not yet appear to be fully awakened to the seriousness of this problem. As a people, we seem to be incapable of effective action until we are approaching a crisis. Do you remember Kipling's caustic lines giving his view of the American spirit:

That bids him flout the law he makes,
That bids him make the law he flouts,
Till, dazed by many doubts, he wakes
The drumming guns that have no doubts.

Unfortunately there is some truth in them. It is only too clearly manifested in the flippant views of those who advocate

or complacently condone the nullification of Prohibition and other laws. To preach disrespect and disregard of laws duly enacted, even though they may be unwise, can have no other result than to encourage criminals.

We shall come through this crisis as we have through others even more grave but to do so we must have the effective co-operation of all the forces of law and justice.

Other causes. In addition to the bags of tricks employed by the lawyers, the loopholes in the law itself, the paid psychiatrists and so-called insanity experts, there are many other factors which assist criminals in escaping justice. Law breakers bank upon all of the foregoing and also expect if convicted to secure so many delays of punishment that they will never pay the penalties imposed. Even murderers with money manage to stay out on bail so long that their punishment is merely nominal. A sufficient amount of money enables them frequently to forfeit bail and escape altogether. If public sentiment is too strong and they are actually incarcerated their pampered treatment often becomes a perfect farce.

No prisoner expects to serve the full term of his sentence. Paroles are easy to get as also are full pardons. Every state repeatedly has the worst life-term prisoner paroled or pardoned within a few years. Constantly these aberrant creatures are turned back into society only to repeat their previous conduct or to perpetrate some crime tenfold more revolting.

Worse than all the foregoing methods of escape is the fact that shyster lawyers for gold will defend any criminal, however heinous his crime. This is especially true of thievery, embezzlement, swindling, graft, and raids upon the public treasury. If every criminal knew for a certainty that no lawyer who knew him to be guilty would defend

him, crime would immediately dwindle to microscopic proportions. It is said that Abraham Lincoln would never take a case if he was certain of the client's guilt. A noted criminal lawyer of Chicago boasts that no murderer defended by him has ever paid the extreme penalty of the law in that state. By his great legal skill, for gold, he frees the most desperate criminals, turns them back as vultures to prey upon society. He is called a great lawyer! What a contribution to civilization he has made through his native endowment, his great learning, and his shrewd manipulation of the law. Would that there were more Lincolns and fewer of this other kind.

Thoughtful people aroused. That thinking men and women are coming to be alarmed is stating the case mildly. Here and there they are sending up to heaven despairing cries for wisdom to guide civilization out of the morass of crime and degradation in which we are wallowing. The previous extended quotations from the daily press and the magazines indicate the growing feeling of alarm—almost despair. Some simply recite the conditions offering no remedial measure—either preventive, punitive, or corrective. Most of those that do suggest remedies indicate means of restraint or punishment.

SELECTED REFERENCES

- ADDAMS, JANE. *The Spirit of Youth and the City Streets*. The Macmillan Company, 1909
- BAKER, JUDGE. *Foundation Case Studies*. Series I, Boston, 1923
- BRECKENRIDGE, SOPHONISBA P. and ABBOTT, EDITH. *The Delinquent Child and the Home*. The Charities Publication Committee, 1912
- BURT, CYRIL. *The Young Delinquent*. D. Appleton and Company, 1925
- CHILD, RICHARD WASHBURN. *Saturday Evening Post*, 1925. (Series of Articles)

- COE, CHARLES FRANCIS. "Why Crime Waves?" *Saturday Evening Post*, March 17, 1928
- DRÄHMS, AUGUST. *The Criminal: His Personnel and Environment*. The Macmillan Company, 1900
- FORBUSH, WILLIAM BYRON. *Be Square*. Charles Scribner's Sons, 1924
- GILLEN, JOHN LEWIS. *Criminology and Penology*. The Century Company, 1926, p. 873
- GOLDMARK, PAULINE (Editor). *West Side Studies; Boyhood and Lawlessness and The Neglected Girl* (This by TRUE, RUTH S.). Survey Associates, New York, 1914
- GUYER, MICHAEL F. *Being Well Born*, Chap. XX, Revised Edition. The Bobbs-Merrill Company, 1927
- HALL, G. STANLEY. *Adolescence*, I, Chap. V. D. Appleton and Company, 1904
- HAMILTON, ENOLA B. "Mentality and Delinquency." *Education*, February, 1929, 49: 331-345
- HART, HASTING H. *Preventive Treatment of Neglected Children*. Charities Publishing Committee, 1910
- HEALY, WILLIAM. "Preventing Delinquency" in O'SHEA, M. V., *The Child: His Nature and His Needs*. The Children's Foundation, New York, 1924
- HEALY, WILLIAM. *The Individual Delinquent*. Little, Brown and Company, 1915
- HEALY, WILLIAM. "The Mental Factors in Crime." *Mental Hygiene* (Oct., 1928), 12: 761-767
- HEALY, WILLIAM, and others. *Reconstructing Behavior in Youth*. Alfred A. Knopf, 1929
- HENDERSON, CHARLES RICHMOND. *Preventive Agencies and Methods*. Charities Publishing Committee, 1910
- LAWES, LEWIS E. (Warden of Sing Sing Prison). "Who is a Criminal—and Why?" *World's Work* (August, 1928), 56: 394-399
- LINDSEY, BEN B. "The Problem of the Children and How the State of Colorado Cares for Them." *Report of the Juvenile Court of Denver*, 1904
- LINDSEY, BEN B. and EVANS, WAINWRIGHT. *The Revolt of Modern Youth*. Boni and Liveright, 1925
- MERCIER, CHARLES. *Criminal Responsibility*. Physicians and Surgeons Book Company, 1926

- MORRISON, WILLIAM DOUGLAS. *Juvenile Offenders*. D. Appleton and Company, 1900
- MURCHISON, CARL. "College Men Behind Prison Walls." *School and Society* (June 4, 1921), 13: 633-640
- MURCHISON, CARL. *Criminal Intelligence*. Clark University, 1925
- SWIFT, EDGAR J. *The Psychology of Youth*. Charles Scribner's Sons, Second Edition, 1927
- THOMAS, W. I. *The Unadjusted Girl*. Little, Brown and Company, 1923
- THOMAS, W. I. *The Child in America: Behavior Problems and Programs*. Alfred A. Knopf, 1928
- TRAVIS, THOMAS. *The Young Malefactor: A Study in Juvenile Delinquency*. T. Y. Crowell and Company, 1908

CHAPTER XIV

MINISTRATION TO INDIVIDUAL DIFFERENCES

1. PREVALENCE OF INDIVIDUAL DIFFERENCES

Scope of this chapter. The previous chapter on "Adolescent Intelligence" has furnished a large amount of statistical material on the distribution of intellectual abilities. This chapter will give a brief discussion of the general nature and extent of a wider range of qualities. The main purpose will be to consider some of the manifold ways of adapting the work of the school to individual capacities.

Illustrations of variations. That there are differences among individuals of a given species is so apparent that to be convincing we need merely to mention them. The organic world reveals great differences among individuals of the same species. Among plants no two blades of grass, no two leaves on the same tree are absolutely alike. Among animals there are distinguishing characters which give each an identity. While sheep appear indistinguishable to the ordinary observer the shepherd knows each member of his flock.

Among human beings no two individuals were ever exactly alike, physically, mentally, or morally. Occasionally a pair of twins seem almost indistinguishable, but careful study of them always reveals great differences.

There are the giants and the dwarfs, the tall and the short, the blondes and the brunettes, the beautiful and the ugly, the black and the white, good and bad, choleric and phlegmatic, brilliant and stupid, blue-eyed and brown-eyed, and other extremes too

numerous to chronicle. Between these extremes there are all grades and shades of apparent difference. Besides these obvious differences there are innumerable variations which are not so apparent and hence thought not to exist. Some persons burst forth into song with the most meagre training, while others, with the best masters, could never carry a tune or discover a discord; some are ready spellers, while many others are hopeless, some are born mathematicians, while others never can progress beyond the merest rudiments. One child early exhibits mechanical genius, devising appliances for every sort of work, while another can never learn to put together the simplest contrivance; one can memorize verbatim with the greatest ease, while another can never repeat a quotation; one person picks up the pen and without training begins to produce literature, while another cannot chronicle accurately the simplest event; one mounts the platform and charms the multitude with his eloquence, while another is made mute in the presence of an audience. Although all human beings possess the same general abilities, there are wonderful differences of development among individuals and also between the lowest and the highest of a class. Even zoologically there are notable developmental differences. Fiske remarks that: "The cranial capacity of the European exceeds that of the Australian by forty cubic inches, or nearly four times as much as that by which the Australian exceeds the gorilla; and the expansion is almost entirely in the upper and anterior portions." . . .

Variations in mental characteristics. The mental processes of different people have their special characteristics, although this is scarcely suspected by the popular mind. Some are ear-minded, some eye-minded, others motor-minded. Some persons think in abstract terms very early, while others never get to the point of doing abstract thinking, but must have everything in the concrete. Darwin tells us that he does not believe he ever would have made a mathematician or a lawyer, because he found it difficult to carry on a long train of abstractions. He had a marvelous mind for the concrete. Some pupils succeed famously with arithmetic and algebra, but utterly fail in geometry. A diagnosis of their types of imagery would doubtless reveal inability to visualize. Such persons would never make architects or inventors. Some children began to walk at six or seven months, others not until

three times that age. Some children can talk readily at twelve months, while I have known a bright boy to defer this process until four years of age. One record chronicles a list of twelve hundred words at two years of age. Many do very little talking before two years. There are adult manual laborers of ordinary intelligence who do not have a usable vocabulary exceeding two or three thousand words. Many scholars use from thirty to thirty-five thousand and recognize as many more.¹

A little consideration should serve to recall the fact that there is nothing else in the universe so plastic and modifiable as mind. Consequently we should be prepared to recognize individual differences among minds. These mental differences are far more pronounced than any physical characteristics. Two persons may be strikingly similar in height, weight, carriage, and facial features, and yet be so dissimilar in mental acumen, disposition, ideals, aspirations, and character, that one of them does not even remind us of the other. Listen to Mosso on this point:

Even at birth men are physiologically diverse. However far we look back into the mists of antiquity, there are found men who toil for a bare living, and men who to increase their own enjoyment of life cause others to toil. Even if a law were to place all men in the same conditions, it would be immediately broken, seeing that a law could never be stronger than nature; and society would at once be disorganized once more owing to the different dispositions received by men at birth. . . . Circumspection, perseverance, prudence, temperance, adaptability, and alertness of mind are not gifts which nature has bestowed on all men, and he who is born with them will know how to make himself obeyed. The disappearance of social differences is unfortunately a dream still more beyond our reach than the universal brotherhood of nations.²

Holmes remarks in the *Autocrat* that:

Men often remind me of pears in their way of coming to matur-

¹ Bolton, Frederick E., *Everyday Psychology for Teachers*, pp. 40-41

² *Fatigue*, p. 174

ity. Some are ripe at twenty, like human Jargonelles, and must be made the most of, for their day is soon over. Some come into their perfect condition late, like the autumn kinds, and they last better than the summer fruit. And some, that, like the Winter-Nelis, have been hard and uninviting until all the rest have had their season, get their glow and perfume long after the frost and snow have done their worst with the orchards. Beware of rash criticisms; the rough and astringent fruit you condemn may be an autumn or a winter pear, and that which you picked up beneath the same bough in August may have been only its worm-eaten windfalls. Milton was a Saint-Germain with a graft of the roseate Early-Catherine. Rich, juicy, lively, fragrant, russet-skinned old Chaucer was an Easter-Beurré; the buds of a new summer were swelling when he ripened.

Thorndike wrote:

If the weakest pupil of a class in computation can do five examples in ten minutes, the best pupil will probably do at least twenty. Roughly speaking, the teacher of a class, even in a school graded as closely as is possible in large cities where two classes are provided in each building for each grade and where promotion occurs every six months, will find in the case of any kind of work some pupil who can do from two to five times as much in the same time or do the same amount from two to five times as well as some other pupil. The highest tenth of her class will in any one trait have an average ability from one and three-fourths to four times that of the lowest tenth.¹

Dr. Gesell in speaking of the differences in a special class said:

The diversity of the ungraded class membership is often pathetically picturesque. Here is the roll call for one such class in a large eastern city: Twenty-four boys, sixteen girls; nationalities, Norwegian, French, Irish, Armenian, Italian, Austrian, American, Chinese; names range from James Moriarity and Ong Yung to Areangelo Christiano and Nishan Kalehadoarian; ages range from six to eighteen; mentality, from giggling imbecility to ambitious intelligence; morality, from truancy, cigarette smoking, and

¹ *Principles of Teaching*, p. 73

thieving to good behavior; parentage, noted in special cases, includes a drunken mother, an insane father, and in three instances, gypsies; physical condition, from partial blindness and deafness, and spinal trouble and anemia, to vigorous physical health. Think of the problem before this teacher, who may not even have a working definition of feeble-mindedness in her consciousness to aid her in classification and instruction!

2. CAUSES OF INDIVIDUAL DIFFERENCES

Different abilities due to heredity. The fundamental cause of differences among individuals is heredity. Some individuals are white, some black, others brown or yellow because they belong to those respective races. Some persons are tall, others short because nature predestined them to be tall or short. Filipinos as a race are short, likewise the Japanese. In contrast, most Scandinavians are tall. Similarly there are some families of tall persons, other families who are predominantly short.

Heredity is likewise responsible for the intellectual abilities of individuals. A child is bright or dull because of inborn tendencies and not because of teachers or teaching. Of course, one's achievements are modified by education but the ability to achieve is predetermined by heredity. Terman has made extensive researches regarding the I.Q. of various members of many families and he finds that there is very great family resemblance in intellectual abilities. Most feeble-minded individuals belong to feeble-minded families. Their low grade intellectual abilities are not due to a lack of education.

It is well known that special types of abilities are found in certain families. In some families a special type of memory may be found throughout several generations. Galton called attention to the remarkable memory of several members of the Porson family and refers to this as the

"Porson memory." Families are often distinguished for some special type of imagination. Among painters it is not uncommon to find several generations of gifted artists. In the family of Titian were nine painters of great note. Raphael, Van Dyck, Murillo, Landseer, all belong to families of painters. In a list of forty-two painters—Italian, Spanish, and Flemish—Galton found twenty-one who had illustrious relatives as painters.

The schoolmaster does not create poets; they are born, not made. The same is true of great musicians. The great mathematicians are not the ones with the most schooling. If they become distinguished it is primarily because of native ability and not from schooling.

The astonishing differences between the abilities of the Juke and Edwards families cannot be accounted for by environment or training. The Edwards family gave to the world more than 1,400 of the world's distinguished, a blessing to civilization, while the Juke family has given nearly the same number who have been a drag upon society because of their low mentality.

Achievement and environment. Differences in accomplishment are often due to environing conditions. This is especially true of pupils in the elementary and high schools because they are at an age when they can not control conditions for themselves. Two types of cases may illustrate the point. Suppose there are in a class in algebra two boys of the same age, each in good health and each of good ability. They are assigned a lesson to prepare. The one boy comes from a good home, his parents are well educated and in sympathy with the school. They have a large, well furnished house with modern lighting, heating, and ventilation. The boy has his own room with table, proper lamp, desk, a bookcase with reference books, text books, and

collateral material—everything needed to work with. His parents coöperate with the teachers by seeing that the boy is in his room and preparing his tasks. That boy will have his work prepared and receive the praise of the teacher as a bright industrious lad.

The other boy comes from a home of poverty. His parents are illiterate. The father works in a coal mine at a mere pittance. He has become soured on the world and out of sympathy with all its institutions, including the school. Instead of commodious rooms, one bare room serves as kitchen, dining room, living room, and perhaps, bedroom. The boy has no room of his own, no bookcase or books, but must try to work his algebra by an ill-smelling kerosene lamp or a nearly exhausted electric light. Around the one table are the father trying to read the paper, the mother washing the dishes, and the numerous children crowding around trying to get such amusement as they can conjure up. The boy had to get up at four o'clock to carry papers and now can scarcely keep awake. The parents can not help and even scold because the law requires school attendance. How will this boy fare on the morrow with his algebra lesson? Is it a wonder that he falls behind, becomes discouraged and at the first opportunity seeks relief by playing truant?

3. DISTRIBUTION OF DIFFERENCES

Bases of determining variations. Ordinarily when individual differences are computed some particular group of individuals is taken as the norm and each particular individual is compared with the average, median, mode or some other measure of the group as a whole. For example, when we say that A is a tall man we are thinking of the

average height of men in general, about five feet six inches, and inasmuch as A is six feet two inches tall we say that he is very tall. Similarly, when we say that pupil B is very low grade we have in mind the average grade of a certain class or group as a standard for comparison.

There is another basis, however, for determining variations in a given individual. We find that there may be lack of uniformity among the different traits in the same individual. For example, a given person may be above the average in height but below the average in weight; his eyesight may be above average in acuity while his hearing may be below average in acuity. It may even be that a given individual has hearing that is above average in pitch discrimination and below average in time or intensity. Seashore has given us an abundance of data on the measurement of musical ability which emphasize this type of individual variations.¹

The normal frequency curve. If a given trait is measured in any large unselected group it is found that the individuals vary in such a way that a graphic representation takes the shape of the so-called normal frequency curve, which simply means that some individual is at one end of the scale, some other individual at the other extreme and that all others are uniformly distributed by small differences between these two extremes. If height, for example, is measured, some one is the tallest, some one the shortest, and all the rest are between these two. Similarly, if intellectual ability is measured some one ranks highest, some one the lowest, and all the rest are between. Even if the groups have been somewhat selected, the curve representing them is of the same type. For example, a senior college

¹ Cf.—Seashore, *The Psychology of Musical Talent*

class, though rather highly selected, presents sufficient differences in any given trait to require the typical curve for representation of the given distribution. The range between the extremes, of course, is not so great as in a relatively unselected group, say a first grade group.

Age-grade tables. In every school, no matter how well organized, great differences of manifold kinds are present in each class and grade. There are differences in height, weight, appearance, age, intellectual abilities, moral qualities, leadership, diligence. One of the most obvious and measurable types of differences is represented in the ordinary "age-grade table." Such a table (XXXIII) is given on the accompanying page.

While the great majority in each grade are clustered about an average age of about three years in range it will be seen that a considerable number are above and below that middle range in every grade. For example, in the first grade approximately sixty per cent are six years old and nearly ninety per cent are six or seven years old. In the ninth grade, the majority are found in a four-year range from thirteen to sixteen years. Only about eighty per cent are now in a two year range, which is considered normal. All outside of that range are considered abnormal or unusual in some degree. Note that children of fourteen and fifteen are found in every grade from the first to the twelfth; thirteen year olds in every grade but the twelfth; twelve year olds in every grade but the eleventh and twelfth; sixteen year olds in every grade but the second; and seventeen year olds in every grade but the first and third! One eighteen year old is found in the first grade and one twenty year old in the second. It is entirely possible that their I.Q.'s, mental ages, and range of achievements may vary still more greatly.

TABLE XXXIII
DISTRIBUTION OF PUPILS BY AGES AND GRADES, CLEVELAND PUBLIC SCHOOLS
1927-28 AGE-GRADE REPORT

Ages as of September 1, 1927. Enrollment as of October 28, 1927

Age	Kdg.	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	Clev. School of Edu.	Ungraded Classes	Total
5 yrs.	8,268	91	1												3	8,363
6 "	1,597	9,973	171	3											736	12,480
7 "	22	4,573	7,082	259	3										268	12,207
8 "		953	4,126	5,822	336	6									77	11,320
9 "		193	1,209	4,266	6,436	348	11								56	12,519
10 "		38	324	1,502	4,235	5,695	474	84	2						112	12,416
11 "		13	78	444	1,696	4,155	5,115	673	37	7					159	12,377
12 "		4	27	116	681	1,943	3,824	4,836	674	90	2				180	12,377
13 "		8	10	41	242	884	2,088	3,919	4,465	1,057	65	6			268	13,053
14 "		7	4	18	92	328	851	2,225	3,520	4,602	803	64	4		501	13,019
15 "		2	5	9	48	128	325	1,039	2,032	3,730	3,456	711	80		552	12,117
16 "		1		4	14	30	74	256	489	1,097	1,916	1,991	732	4	182	6,740
17 "			1		6	3	22	40	91	241	611	1,027	1,700	44	66	3,852
18 "		1				1	4	3	10	38	113	305	773	70	22	1,340
19 "					1		2	1		8	27	75	189	70	6	379
20 " or more			1							3	14	28	58	60	53	217
Totals	9,887	15,857	13,039	12,484	13,790	13,521	12,790	13,026	11,320	10,873	7,007	4,207	3,536	248	3,191	144,776

4. SOME CONCRETE CASES OF ADOLESCENT INDIVIDUALITIES

In one school where I was principal there was a girl of about fifteen in the seventh grade. She was a beautiful girl apparently perfect physically, of exceptional general intelligence as evidenced by conversational ability, ease and grace of manners in any situation, an accomplished pianist and a pleasing singer. Her work in history, geography, and reading were above average. Her penmanship was remarkably fine and she displayed considerable skill in drawing. But when it came to arithmetic! The differences in accomplishment were not due to differences in teachers, because she had the same teacher in most subjects. I was the teacher. My special pride was in my ability to teach arithmetic. When I had taught her common fractions and then proceeded to lead her through the mysteries of decimal fractions she would forget common fractions. After a review and thorough drill in common fractions decimals were resumed only to find that all knowledge of them had evaporated! At the close of the eighth grade year the perplexing problem of promoting many faced us. I am still glad that I advanced her to the high school despite her chaotic ideas of arithmetic. The superior accomplishments in many lines would compensate for the lack in arithmetic. I am sure that she might become a very worthy citizen fully as useful as some of the arithmetic sharks I had in the same school.

I once heard President William Lowe Bryan give an extreme illustration of an individual with variant abilities. "This person," said President Bryan, "is nineteen years old by the almanac, nine years old in general intelligence, and 999 years old in one special ability—the ability to make lightning calculations." This mathematical prodigy knew

the multiplication table up to 1000 times 1000; could instantaneously, without using pencil or paper, square any number of four figures; could similarly multiply any number of four figures by any other number of four figures. Notwithstanding, this marvelous ability he could not learn the simplest rudiments of algebra. President Bryan said that he and all other members of the psychology department and all the members of the mathematics department in the University of Indiana tried to teach him algebra and did not succeed.

Miss Elsie J. Grover, Junior class counselor, Berkeley, California High School, has given us a vivid pen picture of the motley crowd making up a large high school. The picture can be duplicated in any American city. She writes:

A high school of twenty-five hundred students is like a city. It is easy to sink into the mass and be lost. Classes passing from busy teacher to busy teacher, hurry, so much material to be covered in so little time, too many boys and girls in classes—not individuals. What to do? In one school we are trying a counseling system, a counselor for each year. Mine is the junior class. Such a high school as ours is a varied world, all kinds of people: the second generation of immigrants, a few negroes, Japanese, the sons and daughters of the exclusive section on the hill; rich man, poor man, beggar man, thief, all mixed up together pell-mell. *His* father is a millionaire, they say. Anyway, he drives to school in an automobile that looks as if it had come out of a jewelry shop. It stands out in the rain all day rainy days and goes away in the afternoon with half a dozen pairs of muddy boots hanging out in all directions—boots that certainly never pressed the polished floors of the rich—marring its blue and silver. Democratic anyway! *She* is working her way through high school, does housework in the morning and afternoon for her board and clothes and looks thirty some days instead of her sixteen years.

Girls in uniform because some used to come dressed too exquis-

itely for school and some over-dressed; a group that goes to the cafeteria each day for a glass of milk provided because they are under-nourished; all kinds of people and all kinds of problems for a counselor: problems of adjustment, of clashing personality, of love and hate and wrong-doing, of stupidity and genius, comedy and stark, haunting tragedy.

For several hours each day the counselor is in her office. There is a steady stream of pupils. Some have been sent for because they are failing, or because of a complaint, or because their report cards show need of attention. Others come of their own accord to ask for advice, for changes in programs or classes, for working certificates, or jobs, or college recommendations, or what not.¹

Not only does Miss Grover give an idea of the great variety of adolescents in a school, but she also sketches some typical individuals who vary in their own characteristics and who can not be classified because of any single trait. Even the general intelligence tests fail utterly to correlate with special acts of behavior.

Take the case of Marion. I sent for her because from having been a good student she had suddenly become a failure. She came into my office, a pretty, refined, dark-eyed girl.

"Marion," I said, "I sent for you because your records are so poor lately. Do you know why you are failing?"

A self-conscious little smile for answer. Evidently she did know.

"Boys on the brain?" I asked with a smile.

She looked at me from under her heavy lashes. Then, "Just one," she said shyly.

"And is he failing, too?" I wanted to know.

"Oh, no, he gets all one's and two's," she replied quickly. And then added, "I guess I am the only little fool."

No repression there, anyway. What note to strike, though? Pride, perhaps.

"Do you suppose he knows why you are failing when he is not?" I asked her.

¹ "Impressions of a High School Counselor." *Education*, Vol. 46, May, 1926, pp. 546-550

"Oh, I hope not," she said, and added, "I won't fail again."

"Well, bring me your report cards next quarter and let me see them," I told her. She did, and they were clear. Marion had won her first little battle in a game where women sometimes give more than men.

Miss Grover next relates the remarkable story of Jack.

It's a great plan to learn the futility of attempting to pigeon-hole humanity in this office. For instance, we classify our pupils in accordance with the modern mental tests into five classes: A, exceptionally bright; B, better than average; C, average; D, dull; and E, extremely dull.

Jack was marked D on his record card, and was doing poor work, so I sent for him to see what adjustment could be made. It looked pretty hopeless. Perhaps he should be in one of the Smith Hughes courses for mechanical trades? I had taught him myself once as a freshman in a class in world history. He had always failed in tests, although he had seemed interested in class. He came into the office this day and sat down for a talk.

"What do you do with yourself after school?" I asked him, hoping to find some interest that might help me to place him.

"Oh," he said with a grin, "I work in a gas station, earn eighty-five dollars a month after school and week-ends."

"Indeed!" I replied, slightly startled, "and what do you do with all that money?"

"Oh, my brother and I are buying some property," he replied, and when I showed interest he went on.

Over a year ago my brother and I had each saved up five hundred dollars. On the advice of some friends we bought a piece of property out in the boulevard at \$15 a front foot. A year later it had become the center of a business section and we sold half of it at \$325 a front foot and made over \$10,000. I was staggered.

"What did you do with the money?" I managed to ask.

"Oh, my uncle is a contractor and he built some stores on the other half of the lot. We rent them for \$300 a month!"

I looked up the story, for sometimes a wild imagination goes with a D intelligence. It was true. I thought of a lot I had bought some time ago and had sold a year later at a slight loss.

The next time I have a thousand dollars to invest I shall send for Jack to counsel *me*.

5. DANGERS IN OVER-STANDARDIZATION

Variations desirable. Variation is not altogether undesirable. It would be unfortunate if all were absolutely alike. There ought to be enough of commonality to enable people to understand each other, to have sympathies, and to work in harmony together as social individuals. But progress comes from the very clash of dissimilar ideas. Those who have really advanced civilization are not those who have done everything just like everybody else, but those who, though oftentimes scoffed at by the rest of the world, have done something unique. Stephen Leacock has humorously set forth some of the extremes of silly uniformity. An editorial in a recent magazine comments as follows:

Uniformity Foe of Education. In this day of curriculum making and revision, "standardization" comes in for due recognition. Standardization is a capital word to use when one does not know just where he is going. There is always danger of over-standardization in education, and the observations on this subject by Stephen Leacock in a recent address constitute a timely warning. There is too great tendency nowadays, he believes, to reduce everything to a standard or a pattern. In the industrial world this is admirable, he points out, but the standardization of brains is dangerous. Making specific application of his thought, Mr. Leacock says: "It does not do to have every school like every other school, every college like every other college. Even as it is, our students are running to a type. They all wear the same kind of raincoat, read the same number of pages at the same time, write down the same notes and learn by heart the same opinions of the same professor. Even the professors are tending to become standardized. They are turned out of the graduate schools labeled with their units and credits and degrees until they have no more individuality than teddy bears. Not so much. . . ."

With charming friendliness this Canadian humorist and educator observed that standardization is running riot in the United States. He said that the American public has given to education such a wonderful support and has lavished money on it on such a scale that it is no wonder that, for the time being, the body of it has outgrown the mind and that the mechanical structure is bigger than its contents. There is here a notable contrast, he said, between what is, or, at least, what was until yesterday, the British ideal of education and the American. In Great Britain, he said:

"The training of the student is on freer lines—less definite, less mechanical, not cut and divided into parts. More play is left for individual variety for individual preference, for individual difference. Education, in short, contains a large element which is more or less at random and spontaneous. In the United States education is being poured into a mould. Everything learned is marked out into little units and credits are added up like the cash register in a factory. There are standardized textbooks, standardized methods and, in the state of Tennessee, at least, a standardization of God Almighty. The peculiar advantage of standardization is that, no matter how big a natural fool a student is, he can show certificates which prove him a regular Plato."¹

6. OPPORTUNITIES FOR INDIVIDUAL INSTRUCTION

Are bright pupils retarded by slower? Much has been said and written recently about the bright, being held back by the dull. While there is doubtless a little truth in it, the idea has been very grossly exaggerated. In several classes of university students I have asked how many were being held back in their work by students of low grade ability. Thus far I have not discovered any who would acknowledge it. I have also inquired if they knew of any actual cases of high school pupils being held back by those of inferior ability. A few raised hands intimating that they knew of such cases. On asking to have details of

¹ *The Educational Digest*, February, 1926, p. 264

particular cases related to me (privately) not one such case has ever been reported.

In certain subjects like mathematics and sciences presented very technically, undoubtedly some will fail if explanations are not reiterated and much drill given. If the teacher takes time for this it may impede the progress of the brighter pupils; but in non-technical subjects when exact forms and formulas are not necessary of acquirement even the less able will get the general ideas so that they may keep step with those of greater ability.

Ability grouping. The plan of segregation on the basis of homogeneity of mental levels has much to commend it from the standpoint of instructional efficiency. If there were a perfect correlation, or even high correlation between ability and accomplishment such a segregation would be highly desirable. However, as pointed out elsewhere, there is no such correlation. Undoubtedly grouping on the basis of accomplishment is a much more democratic plan than grouping on the basis of ability. Few will object to being classified with those accomplishing the same results; but the moment we begin to group according to inferiority or superiority of ability, judged by any standard except accomplishment, then trouble begins.

Even if ability grouping could be arranged without friction the difficulties in small schools would be insuperable. How is a class of twenty in algebra to be divided into two or three classes? If three classes were formed with twenty pupils what would the taxpayer say? Plainly, a grouping according to accomplishment must be followed and efficiency secured by some other means.

Advantages of homogeneous classification. Many advantages are claimed for ability grouping of classes. The first five of the following seem valid; the remaining seem rather

doubtful. All presuppose that the school is large enough to have parallel sections without added cost.

1. The instruction can be better adjusted to different levels of ability without waste of time for any pupils.

2. Bright pupils can more easily be given work difficult enough to challenge their powers.

3. Slow pupils can more certainly understand all that is required.

4. Individual attention can be given to small, slow groups.

5. Fewer failures result, and elimination is reduced.

6. There is an incentive to get into and stay in the higher group.

7. Better opportunities are provided for discovering the very superior—the near geniuses.

8. Competition in bright groups spurs on pupils who otherwise leave.

9. Slow pupils gain greater confidence and work more aggressively.

Disadvantages of ability grouping. The following demerits of homogeneous classification are often mentioned.

1. In the small school, costs make the sectioning prohibitive.

2. The stigma attached to being in the slow sections discourages those pupils.

3. Bright pupils become inflated with a belief in their superiority and become undemocratic.

4. Pupils transferred to a lower group lose interest.

5. Teachers object to having the lower groups.

6. Teachers do not have time to adjust the work to the different levels.

7. Bright pupils go through school too rapidly and graduate too young.

8. Teachers tend to underestimate the work of the lower

pupils of the bright sections, and to overestimate that of the better pupils in the slower sections.

9. Sectioning involves program difficulties.

10. Text-books are not suited to differentiated instruction.¹

We should not forget that pupils learn much from their fellows. The very diversity of talents and types is one of the most important means of learning. The slow pupil is stimulated by the bright. These in turn may learn much from the slow. It may be that the persistence, fortitude, and methods of attack, are all very important for the brighter ones to recognize. Even the extra questions and the more careful instruction of the teacher, intended for the slower pupils, may be largely responsible for the more rapid progress of the bright ones. The slower ones are often retarded not by lack of ability but because of unfortunate circumstances. Their courage and hard work may be very important examples for the more fortunate ones to observe.

Special schools for the retarded and handicapped. In order to give the feeble-minded a chance, special schools are maintained, generally by the state. That is proper since they cannot profit much by being in schools for normal pupils. Their presence is also a hindrance to the other pupils. The blind, deaf, and cripples, at first need special schools to teach them the technique of mastery of the tools of learning.

However, as soon as they have acquired the rudiments they should be returned to the regular schools. This is desirable (a) for their sake in order that they may learn from normal individuals, and (b) for the stimulation that normal children may get from associating with others less richly endowed. The former may learn to appreciate their

¹ Cf.—Douglass, *Modern Methods in High School Teaching*, pp. 483-5 for further suggestions

own opportunities more by observing what unfortunates may accomplish in spite of handicaps. The presence of blind students in my classes at several times has been one of the most telling object lessons I have observed. One blind man, in particular, exerted a stimulating influence upon the rest of the students. He always ranked high in his oral recitations and never failed to earn an A grade in all his work. He wrote his examinations in the Braille script and then either retyped them or read them to me. He was awarded a fellowship in open competition with all other students, and now occupies a high position as supervisor of the education of the blind in one of our large cities. Helen Keller, blind and deaf, undoubtedly made a contribution at Radcliffe that shamed many a girl into making a better effort than she otherwise would have done.

Special schools for gifted children? In recent days interest in the measurement of intelligence has prompted many educators to suggest that super-normal children, those with special gifts, should be discovered and set apart in special schools. It is assumed that they could thus be permitted to advance as fast as their abilities demanded, unhampered by the slow and average in the ordinary public school. Terman has advocated this in connection with his studies of highly gifted children.

Unquestionably every talent of every child should be discovered and set to working at its maximum rate. But would segregation accomplish this? Is it not probable that life experiences under normal conditions furnish much better stimuli for the development of talents than any artificially selected environment? History does not show that the world's leaders in any lines of thought have come from sheltered hot-housed groups. Lincoln, Roosevelt, Edison, Pasteur, Faraday, Henry Ford, and multitudes of other

world benefactors have all come from the common people and all have received their education through the touch of elbows with the masses of common people whom they learned to serve. Even those born in families of the aristocracy, like George Washington, owe their development to personal participation in the community problems of the great common people.

Notice how the world is turning at the present time for the solution of the great universal problems, not to pampered, parasitic princes, coddled and veneered with all that gold could purchase, but to men like Lloyd George and Ramsay MacDonald, schooled in the mines and not at Oxford or Cambridge, to the humble saddler, Ebert, in Germany, to Lenin, Trotsky, and other peasants in Russia, to Herbert Hoover, farm boy from Iowa, who became laundryman to the sons of the newly rich who were in his classes at Stanford.

In the schools and colleges and universities there ought to be discerning teachers who could help in the discovery of unusual human abilities and then by their magnetism and greatness inspire those, exceptionally endowed, to work with might and main to prepare for lives of usefulness and service. Resources, fellowships, and endowments should encourage and assist in proportion to their accomplishments.

Undoubtedly nothing could be more disastrous to the development of those with unusual gifts than to segregate them and place conspicuously over the portals of their halls of learning "Here dwell the super-normals!" Inflated minds with superiority complexes would at once result, forever precluding a knowledge of their fellow men and a desire or ability to serve them. Education is not to produce encyclopedic aristocrats but men able and desirous of rendering service to society and habituated in so doing.

Often the slow pupil in some particular line is superior in some other direction. If all are studied in order to bring out their individual talents even the slow ones will not be parasites. In a democracy, each class in society makes its contribution and each needs to learn from the rest. For any group to feel that they are superior or exclusive is the worst thing that could happen to them or to society. It is very doubtful if pupils with such superior abilities as to be considered geniuses should be set apart in a special school. If they have real genius, will it not flower best under democratic conditions?

Bagley has called attention in his usual forceful manner to the fallacy of selecting future leaders in a purely artificial way by means of intelligence tests and then setting them entirely apart from the common herd with supposedly less intelligence and no capacity for leadership. He points out that the future of civilization depends upon universal education.

It is now, as it has never been before, a "race between education and catastrophe." If education is to save civilization it must lift the common man to new levels of industrial efficiency as to new levels of thinking and feeling. What has the determinist to propose in place of this program? He would apply intelligence tests to discover the future leaders. Having thus selected them in advance he would give them every advantage and stimulus to turn their native abilities to the benefit of society. . . .

With no fear of contradiction, I can affirm that the safest guarantee of sincere and responsible leadership lies in a level of informed intelligence among the rank and file that will enable the common man to choose his leaders wisely, scrutinize their programs with sagacity, and encourage them to relinquish the duties of leadership gracefully and speedily when they go wrong.¹

The Dalton Plan. One of the much advertised ways of adjusting the school to the capabilities of the pupils is the

¹ *Determinism in Education*, p. 26

"Dalton Plan." This was launched in Dalton, Massachusetts, by Miss Helen M. Parkhurst. The following quotation indicates something of its acceptance at the present time.

The Dalton plan has been adopted by more than two thousand schools of England, many schools in America, Europe, and Japan. It is a method of procedure and its chief aim is to create freedom in the school by developing independent, thinking pupils. . . .

The year's work is divided into ten units, and each unit includes work from all subjects in the pupil's curriculum. Each unit is given to the pupils in printed form and called a contract. The pupils receive a contract record card with each contract and record in graph form. The teachers keep a class record card which shows in graph form the accomplishments of the pupils. . . .

By this method there is a large amount of individual instruction which is of value to the girl. The lessons are developed and taught, however, to groups so that the most valuable feature of classroom method of instruction is retained.

SUMMARY OF RESULTS OBTAINED

1. The work is definitely systematized.
2. Teachers plan the work more carefully.
3. Teachers know the individual pupil.
4. Better understanding and coöperation between teacher and pupil is secured.
5. Pupils want to learn and ask for help.
6. No classroom discipline is necessary.
7. The pupils work in a social environment. They are not segregated while learning.
8. The pupils know the aim and purpose of the work, therefore progress rapidly.
9. Pupils are enthusiastic and spontaneous, and so are easier to teach.
10. The pupil realizes the work is her responsibility and not the teachers'; that no one does her work for her; that the work

must be done day by day; one task must be completed before another is begun.

11. The girls are independent and rely on their own resources, thus being prepared to help in this democracy where one must think for himself.¹

It subdivides and reduces the large class group and it creates a small group of pupils doing intensive work, which stimulates discussion and exercises social influence. The educative value of such small groups is immense in giving an atmosphere to the laboratory, in providing occasions for social adjustment and experience. It provides invaluable play of mind upon mind. As Mary has entered that laboratory involuntarily, and can leave it for another when she feels inclined, no problems of discipline arise. Her mind comes in with her and goes out with her, disciplined by interest in the subject, harnessed—the whole of it—to her job. No time is wasted, for though the general time-table has gone, Mary has, in consultation with her adviser, made a time-table for herself. This is very important, especially in the case of the younger children, in order to inculcate the value of time. To spend it in supplying our mental and moral needs is to put it to the wisest use.²

Accompanying is a "contract" which has actually been used by Miss Parkhurst:

Assignment No. 5

(*For Eighth Grade Pupils 12 to 13 years*)

AMERICAN HISTORY

Grade VIII CIVICS 5th Contract Assignment

Last month you studied about the Constitution of the United States: you learned about the legislative, executive, and judicial departments, and what their different powers and duties were. This month we shall review this by comparing these same departments with those in another country; we shall learn about some of the great figures in public life of to-day; and we shall go and find out some more necessary and useful knowledge about our Constitution.

¹ *School Board Journal*, March, 1926, p. 116

² Parkhurst, Helen, *Education on the Dalton Plan*, p. 43

1ST WEEK

We are all interested in England, because the people there speak the same language that we do, and because our forefathers came from that country. This week we are going to see how the parts of the Government of England are different from the parts of our own, and how they are alike.

Problem

The problem will be to learn likenesses and differences so that you can explain them to anyone in a clear way. I shall test you on what you have learned, either orally or by written test.

References

In a pamphlet called Pupils' Outlines for Home Study, Civics, Part I, pages 10-14, you will find the necessary facts about the Governments of the United States and England given in parallel columns.

Equivalents

You will probably wish to do the whole week's work at one time, but if you do not do it all at once, consult me as to the value of portions of the work outline.

The following is a facsimile of a "contract" actually given out in a certain large school where the plan is followed. It is reproduced from the mimeographed sheet as nearly as possible.

CONTRACT

FIRST WEEK

Problem IV—The Sentence. Ask for exercise 1.

Credit $\sqrt{m}$

SECOND WEEK

Problem I & II—Proper connectives. The too frequent use of "and", "so", and "then" as connectives is tiresome. This habit

may be corrected by selecting the proper connectives. In exercise two where ever you think it may improve the sentence omit "and"; if it seems best, connect the parts of the sentence by means of some other conjunctions from the list.

whom	where	after
while	until	before
because	although	if
as	since	

Credit 1

Problem III—Conference. The letter. Reference—New Practice Book. Read pages 87 to 94, 97, 107.

Write a letter to your teacher or principal explaining the reason for your absence from school on Monday.

Credit 2 & 3

Problem IV—Conference. Current Topic. See bulletin board for directions.

Credit 4 & 5

THIRD WEEK

Problem I—The Story. Reference—New Practice Book. Read the story, "The Giant and the Dwarf" by Goldsmith.

1. What does the first paragraph tell?
2. How many adventures were there?
3. Tell each adventure.
4. How does the story end?
5. Find the meanings of the following words:

Adventure	damsel	plight
champion	injury	Saracens

Credit 1

Problem II—The Letter. Read carefully Letter 1 on the bulletin board.

1. Note the heading, the salutation, and the ending.
2. How does each sentence begin and end?
3. Is the meaning of each sentence clear?
4. How many paragraphs has the body of the letter?
5. Is that correct.

Write a letter to a friend on one of the following topics.

1. What I do after school.
2. How I spend my Saturdays.

3. How I Can Help my Mother.
4. The School I came From.
5. How I like Gym.

Credit 2 & 3

What advantage do these lessons possess over well prepared textbooks? Are there any questions that would not be given out to a regular class group? In all probability more questions would be given out to the group and equally as carefully formulated. Those reproduced are faulty in English, notwithstanding that they are in the subject of English. Note the mistake in capitalization of the word "adventure" and the incorrect punctuation after "correct." Note the lack of uniformity in punctuation, enumeration, and form of heading for the "Problems." Is it correct to use "&" for "and"? Should one say "Credit 4" or "4 credits"? In this "Contract" there are at least twelve glaring errors in English, including punctuation, capitalization, spelling, and incorrect symbols. Many of the statements are poorly phrased. In another "Contract" before me the name of Long, the author, is not capitalized. There appear also the vague expressions "Talk about a book you have read," "Give the name of a book." The whole series of contracts shows no well-organized pedagogical arrangement.

The foregoing illustrations are cited to show the almost inevitable carelessness in the preparation of the contracts. If large city high schools can do no better, what may we expect in the usual small high school? If immature, careless children are given such assignments, will not their results be of a similar type? In order to eradicate the errors the cost would make the plan entirely prohibitive.

The Pueblo Plan. Among the many plans for individual instruction one of the pioneers in many ways embodies all the fundamental principles found in any of the more recent

This chart represents the units of work in Caesar accomplished individually by twenty free workers in one hundred and fifty aggregate hours of time. The class was in the Central High School of Pueblo, Colorado, the teacher being Miss Ida Brock Haslup. The work was distributed through one hundred days, which, however, included some holiday time; the period was an hour and a half per day. All the work was done in the Latin laboratory, there being no home preparation of lessons. The reading of Caesar text was attended by the usual collateral work in grammar, composition, and historical reference. The method was individual, so that each pupil had practically the value of the entire period, there being no interruption of the general class while one individual was qualifying to his teacher. Each pupil not only studied the text, but qualified by recitation and quiz on every sentence of it. The test of advancement was thoroughness in each unit, without which the pupil could not pass on to a succeeding chapter. It will therefore be seen that the amount of work accomplished, the work being done entirely in the teacher's presence, gives an unusually good opportunity to measure the differences in working ability in this particular subject. . . .

It will be noted that Pupil A covered 110 chapters; B, 90 chapters; C, 140 chapters; D, 95 chapters; E, 80 chapters; F, 85 chapters; G, 80 chapters; H, 75 chapters; I, 70 chapters; J, 90 chapters; K, 80 chapters; L, 85 chapters; M, 65 chapters; N, 60 chapters; O, 45 chapters; P, 45 chapters; Q, 45 chapters; R, 70 chapters; S, 60 chapters; T, 40 chapters.¹

Different numbers of subjects. A relatively simple method of adjustment to meet individual needs has been largely overlooked. There has been much thought devoted to classification according to abilities, to finding different types of work suited to different abilities, interests, and vocational objectives. However very little recognition has been given to the fact that different individuals should carry different amounts of work. This is made desirable for many reasons. Some students have to work outside of school while others can devote all their time to their studies;

¹ Search, Preston W., *An Ideal School*, pp. 28-30

some have extracurricular activities that absorb a great deal of time. Different individuals also work at different rates of speed. That has been discovered recently in experiments in reading. Any observing teacher could notice those differences in all subjects. Whatever the cause due allowances should be made.

Different rates of speed do not necessarily mean superiority or inferiority although there is undoubtedly some correlation. But if one pupil cannot do as much work as another it does not necessarily mean that the quality of his work is inferior. Poor work may, and often does, mean lack of time and superior work similarly often means ample time for its accomplishment. In the high school some pupils should not be allowed to carry more than two subjects while others would take three, four, or five subjects. There might be exceptional cases where a pupil would take six subjects because of brilliance of mind, previous exceptional preparation, or advanced age.

Promotion by subjects. Under this plan promotion would be by subject and not by year. To avoid some of the confusion entailed by completion of the work at different times, some of the more rapid workers could be easily induced to carry some extra subjects not required in their curriculum. No matter what course pupils were completing, an extra unit of history, science, or English would not be amiss. Every pupil could to advantage master stenography and typewriting. A unit or two in manual arts, music, debating, or household arts, would be valuable to any student even though purely extra. It is a good thing to get pupils out of the idea of completing merely minimum essentials. If some pupils seemed to have too much time they should be urged to raise their grades to the maximum. There are few who would not profit by such effort.

Subjects in different grades simultaneously. Ordinarily a pupil takes all of his work in a given grade or year. This is largely on the assumption that abilities in different subjects are all on the same level. In general there is considerable uniformity but there may also be considerable variation. For example, a pupil may have a strong mechanical memory making it possible to have made unusual progress in foreign languages. In this subject he may be ahead of his grade. The same pupil may be low in abstract mathematical reasoning making it necessary to be classified in a lower grade than normal for those of his chronological age, or even his mental age. Thus this pupil might be in three different grades and be happily adjusted in each.

Sometimes the variation in achievement is not directly correlated with native ability but may have been greatly influenced by circumstances of environment and training. This may necessitate a classification varying greatly from chronological age or mental age levels.

An illustration came under my direct guidance. Once when I became principal of a grammar school I discovered a big adolescent boy of sixteen in the fourth grade. I inquired why he was there and was told by his teacher that it was because he could not read or spell. On talking with the boy I found that his reading was very faulty and his spelling full of mistakes. I discovered, however, that he was very good in arithmetic, commanded a wide range of historical facts, that he knew more real geography than his teacher. Charles was born in a foreign land, had traveled and observed carefully, had read rather widely and with understanding. Plainly it was an injustice to keep this boy in the fourth grade. I said, "Charles you don't read very well and you don't spell very well, but you do know arithmetic, geography, and history. If I will allow you to go

into the seventh grade in arithmetic and the eighth grade in history will you be content to stay with the kids in the fourth grade a little while to bring up your reading and spelling?" With glistening eyes he said "Indeed, I will." He completed the seventh grade that year, the eighth grade the next. He was then promoted to the high school which he finished in three years. He completed a normal school course, the state university course and took graduate work in this country and in Europe exhausting the university facilities for the scientific study of paper making. When I last heard of him he was an instructor in forest products in one of our great state universities. We corresponded many years. In one letter he said, "I have never ceased to thank you for letting me study in those different grades just at a time when I was down and out!" May there not be others who are on the verge of being down and out because of maladjustment? Very true, it makes the school machinery creak, but the school exists for the child and not the child for the school.

Flexible assignments. In some schools teachers give flexible assignments. A minimum is given for all and additional work is indicated which may be done by those who wish to do it. Miss A. Laura McGregor, Director of Supervised Study in the Washington Junior High School, Rochester, N. Y., has furnished abundant illustration of adapted assignments of work in connection with supervised study. She divides the pupils roughly into three groups on the basis of achievement. The pupils themselves determine which grade of assignment, minimum, average, or maximum, they will prepare. The pupils are told to do what they can do well. "*The minimum assignment* should include the minimum essentials of the course of study for that day, and the slowest pupils will accomplish only this amount.

The average assignment should involve a broader and deeper investigation of the various phases of the problem or should include more difficult variations of the problem. . .

The maximum assignment should involve special investigations not required of the class as a whole but affording wider opportunities to the superior pupils."¹

Adapted recitation questions. It is easy to adjust questions in oral recitations or blackboard assignments to the capabilities of the different pupils. For the slower or less capable ones the easier questions may be selected without causing any comment or without even being noticed by the individual pupil questioned or by the class as a whole. Not all questions are of the same difficulty, and when an easy question in the natural sequence is appropriate, the weaker pupil can be called on to answer. In the same way problems for blackboard solution can be parcelled out. Similarly when very difficult questions occur, the bright pupils may be singled out to answer. If there are pupils who are of the "smarty" type, especially hard questions may be thought out in advance and very "innocently" shot at such ones. The purpose should not be to humiliate, but to make them feel that they do not know everything and that they must work to succeed. Of course, not all will get the same grade at the close of the work. But one object should be to make each one feel that he was having to work and for each one to feel that he was succeeding.

Use of the project. The project may be employed advantageously to provide differing amounts and kinds of work to suit individual capacities, needs, and interests. Stevenson writes:

The project provides for a natural setting which means that it is associated with many interests of the learner. It follows that

¹ *Supervised Study in English*, p. 7

the projects which are accepted for solution will be highly motivated—they will be worked at with a maximum effort because they hold great significance for the learner. A need for the solution is felt. . . . The project gives the ideal organization of subject matter to arouse an aim and to direct thinking. The thinking of most worth to the individual is that which is directed by his own aims and not an aim held by someone else or one forced upon him.¹

Manifold opportunities will occur for individual projects to grow naturally out of every lesson. For example, in physics, one pupil may be stimulated by his study of electricity to rig up a door bell at home, another may wish to fix up a set of clocks for the school plant, another will try out some lightning rods, another will tinker up a home-made radio set and still another will try electro-plating the family spoons. John Dewey said:

“Every recitation in every subject gives an opportunity for establishing cross connections between the subject matter of the lesson and the wider and more direct experiences of life.” Processes of teaching, according to Dewey, are vital to the pupil only when they are related first of all to a “genuine situation of experience . . . that there be a continuous activity in which he is interested for its own sake; secondly, that a genuine problem develop within this situation as a stimulus to thought; third, that he possess the information and make the observations needed to deal with it; fourth, that suggested solutions occur to him which he shall be responsible for developing in an orderly way; fifth, that he have opportunity and occasion to test his ideas by application, to make their meaning clear and to discover for himself their validity.”²

Adjustment through extracurricular activities. Undoubtedly one of the best means of ministering to individual differences is through the extracurricular activities. The regular curriculum of studies, in a large degree, is formulated

¹ *The Project Method of Teaching*, p. 119

² *Democracy and Education*, p. 191

on the assumption that there are certain minimum essentials of knowledge that all ought to acquire. To a certain extent, the regular studies tend to furnish common ideas, to make all think the same thoughts and in the same way. Of course, not all take exactly the same subjects and naturally not all get identical ideas from them; but, in general, the regular curriculum has a leveling effect. The extracurricular activities have, largely, just the opposite effect. They are designed to offer something out of the regular routine and, if wisely administered, they are entirely elective and chosen because of initial individual interests and abilities. Through the various sports, literary and science clubs, debating societies, choruses, band, orchestra, thrift enterprises, the school paper, the annual, the associated students, the honor societies, and self-government, a great variety of talents can be discovered and stimulated to work. Unsuspected qualities of leadership, organization, social sympathies, managerial ability; talents for music, art, literary expression; athletic powers, and mechanical insight and skill, may be uncovered and made of great individual and social service. The extracurricular activities really furnish the opportunity to initiate students in the applied side of education.

Avoid over standardization of content and examinations.

In the attempt to minister to individual needs through the curriculum we must try to get away from the traditional notion that the curriculum is a compendium or encyclopedia of facts which all are supposed to acquire. Even though the teacher imparts a stereotyped group of facts or if the textbook lesson is assigned for all to study, it should not be expected that all will acquire, still much less retain permanently, the same facts. Even if the same bits of information are acquired by all, as evidenced by their re-display by the pupils, the meanings grasped and the stimulations

received and the actions impelled are as varied as the pupils taught. We should not expect or wish it to be otherwise.

J. Carson Ryan in a recent address pleaded for "freedom from the restrictions of a course of study, a content of education, a prescription that has long been outgrown."¹

But even though a new content is assembled, is there not almost equal danger that it will be assumed that the new content can be so selected that it shall fit all alike in the same class and in all classes of the same grade from Seattle to Boston and from Minneapolis to New Orleans? That is precisely the import of the loose thinking about curriculum making at the present. It seems to be expected that eventually all items of the standard curriculum will be so wisely selected that all teachers will have to do is to consult their standardized compendiums and dole out standardized doses each day, each week, each year. To discover whether the standardized bits have been learned (memorized), the pupils will be periodically tested by the "no-thought" true-false, completion, or multiple choice standardized tests. They must be asked the same questions, give the same (objective) standardized, conventionally learned responses as every other child of the same grade throughout the United States. The whole standardized subject matter test movement is directly opposed to the development of all individuality, initiative or independence of thought. No other movement in the last fifty years has been so retarding as this to the whole new spirit of freedom in education so earnestly promulgated by Pestalozzi, Froebel, Hall, Eliot, Francis W. Parker, and John Dewey.

Dr. Ryan said further that the curriculum of the future

¹ Fourth International Conference of the New Education Fellowship, Locarno, Switzerland, August 5, 1927. See *School and Society*, Sept. 17, 1927, article "Individual Methods and the Primary School Teacher"

will have to be an ever-changing, ever-varying, ever-developing content, startlingly like life itself when life is as it should be. What I do plead for first of all in my list of elements in freedom of education is the willingness to regard nothing in the present curriculum, anywhere, from the nursery school to the university, as inherently right or sacred, but to regard it all, what we inherit and what we add, as alike subject to weighing, to changing, above all to enriching. . . . It will be a content based upon individual differences, of course; but it will seek to use differences as an opportunity rather than as an excuse.¹

President Emeritus David Starr Jordan, through his vigorous utterances from Stanford University, did much toward the reorganization of schools. He says:

There is no virtue in educational systems unless the systems meet the needs of the individual. It is not the ideal man or the average man who is to be trained; it is the particular man as the forces of heredity have made him. His own qualities determine his needs. "A child is better unborn than untaught." A child, however educated, is still untaught if by his teaching we have not emphasized his individual character, if we have not strengthened his will and its guide and guardian, the mind. . . . All education must be individual—fitted to individual needs. That which is not so is unworthy of the name. A misfit education is no education at all. . . . If we are to make men and women out of boys and girls, it will be as individuals, not as classes. The best field of corn is that in which the individual stalks are most strong and most fruitful. Class legislation has always proved pernicious and ineffective, whether in a university or in a state. The strongest nation is that in which the individual man is most helpful and most independent. The best school is that which exists for the individual student.²

President Eliot, in his admirable article, "The Function of Education in Democratic Society," has said:

Another important function of the public school in a democracy is the discovery and development of the gift or capacity of each

¹ Loc. cit., p. 348

² Jordan, *Care and Culture of Men*, pp. 66-71

individual child. This discovery should be made at the earliest practicable age, and, once made, should always influence, and sometimes determine, the education of the individual. It is for the interest of society to make the most of every useful gift or faculty which any member may fortunately possess; and it is one of the main advantages of fluent and mobile democratic society that it is more likely than any other society to secure the fruition of individual capacities. To make the most of any individual's peculiar power, it is important to discover it early, and then train it continuously and assiduously. It is wonderful what apparently small personal gifts may become the means of conspicuous service or achievement, if only they get discovered, trained, and applied. . . . In the ideal democratic school no two children would follow the same course of study or have the same tasks, except that they would all need to learn the use of the elementary tools of education—reading, writing, and ciphering. The different children would hardly have any identical needs. There might be a minimum standard of attainment, in every branch of study, but no maximum. The perception or discovery of the individual gift or capacity would often be effected in the elementary school, but more generally in the secondary; and the making of these discoveries should be held one of the most important parts of the teacher's work.¹

SELECTED REFERENCES

- BAGLEY, WILLIAM C. and KEITH, JOHN A. H. *An Introduction to Teaching*, Chap. VIII. The Macmillan Company, 1924
- BENSON, CHARLES E., LOUGH, JAMES E., SKINNER, CHARLES E., WEST, PAUL V. *Psychology for Teachers*, Chap. XX. Ginn and Company, 1926
- BOLTON, FREDERICK E. *Everyday Psychology for Teachers*, Chap. IV. Charles Scribner's Sons, 1923
- BOLTON, FREDERICK E. *Principles of Education*, Chap. XII. Charles Scribner's Sons, 1900
- CAMERON, EDWARD H. *Psychology and the School*, Chap. XIV. The Century Company, 1921
- CUBBERLEY, ELLWOOD P. *Introduction to the Study of Education*, Chaps. XI, XIV. Houghton Mifflin Company, 1925

¹ Eliot, *Educational Reform*, p. 408

- DEWEY, EVELYN. *The Dalton Plan*. E. P. Dutton and Company, 1922
- DOUGLASS, HARL R. *Modern Methods in High School Teaching*,
Houghton Mifflin Company, 1926, p. 544
- GATES, ARTHUR I. *Psychology for Students of Education*, Chap. XVII.
The Macmillan Company, 1923 Rev. Ed., 1929
- HOLLINGWORTH, LETA A. *Gifted Children: Their Nature and Nurture*.
The Macmillan Company, 1926
- IRWIN, ELISABETH and MARKS, LOUIS A. *Fitting the Child to the School*.
The Macmillan Company, 1924
- JORDAN, A. M. *Educational Psychology*, Chaps. IX, X, XI. Henry Holt
and Company, 1928
- JUDD, CHARLES H. *Introduction to the Scientific Study of Education*,
Chap. XII. Ginn and Company, 1918
- MCGREGOR, A. LAURA. *Supervised Study in English*. The Macmillan
Company, 1921, p. 220
- MILLER, HARRY LLOYD. *Creative Learning and Teaching*. Charles
Scribner's Sons, 1927
- MILLER, HARRY LLOYD. *Directed Study*. Charles Scribner's Sons, 1922
- MORRISON, HENRY C. *The Practice of Teaching in the Secondary School*.
University of Chicago Press, 1926
- PARKHURST, HELEN. *Education on the Dalton Plan*. E. P. Dutton and
Company, 1922, p. 273
- PINTNER, RUDOLF. *Educational Psychology*. Henry Holt and Company,
1929
- PRINGLE, RALPH W. *Methods with Adolescents*. D. C. Heath and
Company, 1927, p. 437
- SEARCH, PRESTON W. *An Ideal School*. D. Appleton and Company,
1901, p. 357
- STARCH, DANIEL. *Educational Psychology*, Chaps. III, IV, V. The
Macmillan Company, Rev. Ed., 1927
- STEVENSON, JOHN A. *The Project Method of Teaching*. The Macmillan
Company, 1922, p. 305
- TERMAN, LEWIS M. *The Intelligence of School Children*, Chaps. III, IV,
V, VI. Houghton Mifflin Company, 1919
- THORNDIKE, EDWARD L. *Educational Psychology* (Briefer Course),
Chaps. XXI-XXVII. Teachers College, Columbia University, 1914
- THORNDIKE, EDWARD L. *Individuality*. Houghton Mifflin Company,
1911

- THORNDIKE, EDWARD L. *Principles of Teaching*, Chap. VI. A. G. Seiler, 1906
- WAPLES, DOUGLAS. *Procedures in High School Teaching*. The Macmillan Company, 1924
- WASHBURN, CARLETON E. and others. "Adapting the Schools to Individual Differences." *Twenty-fourth Yearbook* of the National Society for the Study of Education, Part I, 1924
- WHIPPLE, GUY M. and others. "The Education of Gifted Children," *Twenty-third Yearbook* of the National Society for the Study of Education, Part I, 1924

CHAPTER XV

SOME PARAMOUNT OBJECTIVES OF SECONDARY EDUCATION

1. RELATION OF THIS CHAPTER TO PRECEDING

Relation to the junior high school. In the opening chapter of this book the magnitude of the American high school and the recency of its development were discussed. In this chapter some of the outstanding objectives of secondary education will be considered. The junior high school is a unit affording the initial opportunity for the discovery of interests and aptitudes. The senior high school should continue that function. There should be something more of concentration on subjects chosen in the junior high school. The methods initiated in the junior high school gradually change from those of the elementary school and should be continued throughout the period of secondary education. The senior high school is not the place for university methods of instruction or discipline.

Adolescent development and educational needs. The whole organization of the modern high school has been established upon the tacit belief in a rather marked change in development at the period of adolescence. Pupils are taken from a school having a given type of curriculum, of methods, of discipline, and transferred to another kind of school having an entirely new and different type of curric-

ulum, taught by essentially different methods, and subjected to a new type of discipline. It is assumed that the development of the pupil demands this new world.

Those pupils who do not continue in school have been assumed to be ready for life's work. They begin new modes of behavior. They are required to do much more strenuous work, to rely upon their own initiative and responsibility, to take care of themselves, and to have a much more mature and serious view of life than before.

The church has recognized a marked epoch in development and has assumed that now the youth could understand the meaning of conversion, religious rites, and obligations. This has, therefore, been the traditional period for confirmation and the acceptance of entirely new obligations and relations. The same thing has been recognized among savage tribes from time immemorial. This has been the time when youth have been initiated into the mysteries of manhood's and womanhood's duties. A new period of strength to bear greater burdens than ever before, a new independence of thought and resourcefulness, and new ideals of responsibility and duty, have been believed to be now present which were not before sufficiently developed.

Secondary education should cover the period of youth rather than that of childhood or of adult years. To continue the child too long in the elementary school environment and under elementary school methods of teaching and discipline is an injustice to the child. Hence, as nearly as possible with the advent of the period of youth, the child should be transferred to a new school environment. The transfer should be gradual and does not necessitate an absolute transfer to a different building. Again, with the close of the period of youth, when the pupil has arrived at an age of discretion and maturer judgment, he should be

transferred to the college or university atmosphere. Such a conception demands that the specific high school work should be begun from one to two years earlier than it ordinarily is begun, also, in a large number of cases, the secondary school regime should be continued for a year or two longer than in our present high schools, that is, the high school should occupy the years between about twelve and twenty.

This is not by any means a wholly imaginative organization. In our best schools we already have the junior high school reaching down into the grammar school through the introduction of high school subjects a year or two earlier, and the development of a more suitable type of discipline. Many of the large city high schools are continuing post-graduate studies and by this means are duplicating one or two years of college work. This is the junior college. Few of the schools which have entered upon this work have ever taken a backward step. It has been found to meet a real need. From an extended investigation recently pursued, I am convinced that the best secondary school men in the country are wholly in sympathy with the extension of the high school work in the larger schools. Each of these three stages is a part of the entire secondary school period and all should be considered as an integrated whole rather than as absolutely separate and distinct units.

Trend toward European secondary school organization. With the extension upward and downward, our secondary schools will follow the practice of European education. We have been regarding the reorganization as something unique and indigenous to America but the fact is that it is several centuries old in Europe. In fact, the eight years of elementary school, four years of high school, four years of college, and three years of graduate school are unique in America. No other great country of the world has copied America in

that organization. Even the Orient has copied the European plan. And now America is following suit. In so doing we are simply adjusting education to biological laws of human development.

All should be in school to full maturity. It is important to keep in school all pupils as late in the adolescent period as possible. This does not mean that they should be occupied with the traditional formal studies, but they should be developing as many varied talents as possible during the plastic period. To enter upon a trade or a life occupation and to devote all one's energies to acquiring the skill connected with that occupation is narrowing, especially at this time, before a wide range of interests have been established. After a broad foundation has been laid, the narrower range of activities necessary to the life calling may with less danger be taken up, because the particular vocation will naturally be evaluated in terms of other interests.

Apprenticeships are always narrowing, because they deprive one of the opportunity of developing the manifold potentialities. The same skill acquired in school, along with other things, does not narrow one as does the limitation of one's self to the apprenticeship. Therefore, one of the most important problems of secondary education is to get the boys and girls into the high school and to keep them there. This does not mean that they should all graduate, but whether they can graduate or whether they cannot successfully pass in a single subject, they should have the advantage of the development which education may give to them. Too many teachers seem to think that the high school is of value only to those who can pass regularly through the various stages and eventually graduate. But the slow ones may need its ministrations most, and without its stimulus, may become the worst menaces to society.

The school is a sort of insurance agency for the state. Much the same argument would hold for college study. The college should graduate only those who can pass the work successfully, but its door should be open to all who can get even the least amount of help by attendance.

The state should be responsible for the education of youth until such time as they are qualified to become productive, independent citizens. This policy demands that the compulsory age be raised very materially, at least to eighteen years—better to twenty-one. Of course, this should not mean that all would be required to take the same fixed curriculum, nor should it imply that all would be required to take the traditional curriculum of academic work. Provision should be made for each one to acquire the elements of a broad general education. In addition each one should have an opportunity and be required to use the opportunity either to pursue higher college study or to learn some trade, or profession. Those desiring trade training should have as full an opportunity to acquire mastery of it at state expense as those who study at state expense for the professions or for general culture.

Why pupils drop out of school. A study of public school attendance reveals the fact that pupils drop out of the schools at an appalling rate all through the grades and especially in the grammar school and the high school, i.e., during the adolescent period. It has generally been assumed that pupils drop out of school because of poverty, because it is necessary for them to become bread winners, to support themselves or contribute to the support of their families. Undoubtedly this is one cause of early withdrawal from school but it is not the main cause. Dr. Calvin Woodward, who was for many years a member of the Board of Education in St. Louis, said that he had supposed that economic

necessity was the most frequent cause, but in order to test the matter, an investigation was made in that city. After a thorough study in which each case was carefully followed up, he said that he was convinced that a great majority of the pupils might have remained in school longer had they chosen to do so. Either the pupils or their parents considered that it was not worth while to attend. This interpretation has been corroborated by many other investigations made in widely scattered areas of the country.

The main reason why pupils drop out of school is that it does not appeal to them or their parents as worth while. It may be immensely valuable, but if the pupils and parents do not realize its value, the effects are the same. Because the relation between what is done in school and what really interests the pupil is not seen, the pupil concludes that the school is not worth while. The largest task of the teacher is not in imparting instruction in the facts of his subjects, but in opening the eyes of the pupils to the importance to themselves of these facts. If they do not discern the importance for themselves, the process of learning the facts becomes purely perfunctory, devitalized, and insignificant. The instruction is probably not useless, but its value is relatively vastly diminished. The pupil who does not glimpse values for himself in the activities he performs in the schoolroom, might better be doing other things less academic perhaps but more truly educative for him.

Pupils who come to regard their study or other work as worth while for themselves do not need to be driven to their tasks. The normal adolescent is not lazy but energetic to a wonderful degree. If pupils are given some of the real work of the world to do they accomplish it with vim and success. Witness the many experiments that have been tried in practical work in connection with school studies.

2. OBJECTIVES OF THE HIGH-SCHOOL CURRICULUM

General objectives. The purpose of the curriculum is (a) to promote the physical welfare of the pupils, (b) to minister to desirable interests and aptitudes already present and apparent, (c) to discover latent possibilities and limitations, (d) to create new interests and ideals, (e) to adjust the individual to his environment by helping him to interpret that environment and himself, and to give him acquisitions by which he may master his environment, (f) to fit the individual for social service. Several of the foregoing overlap each other but in order to gain a clear view it has seemed best to analyze the aims into elemental problems.

It cannot be emphasized too often or too strongly that the primary purpose of all elementary and secondary education is to develop to the utmost the potentialities and capacities of each individual. The period of vocational training should come later—near the close of the period of adolescence and in the early stages of full maturity. Vocational guidance should be given throughout the whole educational life of the individual, but the real training in the ultimate life-work should come late.

The high school should be a voyage of discovery and revelation. It should be an adventure on the part of the pupil in which he journeys with open-eyed wonder, encountering ever new vistas, experiences new thrills, makes new interpretations and ultimately selects his life work. He may then advance to the stage of higher education for final preparation, later to enter upon his vocation satisfied that he knows what he wants and confident of himself because of thorough preparation to do efficiently what he has deliberately chosen to do. The teacher and the curriculum should bring to him the wisdom of the ages to assist in unfolding his potentialities and to minister to his fullest

development as an efficient and useful member of society.

Should be adapted to capacities and interests. The high school course, continuing the work of the elementary school, should furnish an opportunity to develop desirable hereditary possibilities, and enable the pupil to come into possession of the bequests of social heredity. Dr. Nicholas Murray Butler regards this social heritage as five-fold. There is the scientific inheritance, the literary inheritance, the aesthetic inheritance, the institutional inheritance, and the religious inheritance.

Because of the native capacities in every normal child and because of the necessity of fitting each child for participation in and sympathy with the social life of which he is a part, it is necessary to give to all something of each one of the great realms of thought mentioned. No one is fitted to specialize until he has surveyed the fundamentals of the world's achievements. This is necessary both for understanding the limited field and for sympathy with others in different fields. This means that the high school should have some required work. From one-half to two-thirds of all the high school studies should be prescribed. The remainder should be elective, affording opportunity to minister to special interests—which usually mean aptitudes—and to discover and develop new interests and capabilities.

Variety and flexibility necessary. Because of the needs of the adolescent and the variety of demands made upon the high school in being a people's college, the work offered must embrace a great variety of subjects, and the courses be flexible in character. The adolescent is groping to find his place in the world, and the high school must discover his interests and aptitudes, foster them, and create new interests. To offer a single inflexible course is sure to produce starvation for some, nausea and indigestion for others,

and to drive still others to the tables of the business colleges, the industries, or, what is more unfortunate, to the poisons of the street. All the people are taxed and here as elsewhere there should be no taxation without representation. The adolescent should have spread out before him the whole vista of possibilities. Through minute and prolonged attention to some subject or group of subjects, he should learn the meaning of mastery, but in many of the introductory courses he should not be bothered with hair-splitting definitions or with exhaustive details, and the examination should be sunk into the background. Point of view, inspiration, interest, and a glimpse of the place and possibilities of the subject, should characterize the first year in most high school subjects. This does not mean that hazy ideas or ill-defined concepts are desirable but it does emphatically declare against too much drill in the detailed forms and formulae. It is a period of survey of the territory previous to laying permanent roadways. These are largely what good junior high schools are trying to accomplish.

Elective system a psychological necessity. The elective system of studies is a psychological necessity growing out of adolescent needs. No one who has come to an understanding of adolescent psychology could argue for absolute inflexibility of courses of study. This is the time when all latent instincts are asserting themselves, and the selection of permanent life interests must be made. The course of study must be made a means of discovering to the pupil his interests, powers, possibilities, and limitations. The facts mastered, the results achieved, are of less importance than the self-revelations which should come to the boy or girl through the facts. If great visions have been beheld, expansive vistas glimpsed, great inspirations felt, the details and technique necessary for achieving victories can be

readily mastered. To regard all of education as a matter of drill and drudgery only, is to miss that which renders genuine education possible. The drill master's philosophy consistently followed to its ultimate conclusions, would make all schoolboys tradesmen or clerks.

Should represent community needs. The high school must be adapted to the needs of the people at the present time. These needs are far in advance of what they were when high schools were first organized. Then, about the only function of the high school was to fit for college, whose function in turn was to train young men for the ministry, law, medicine—in short, for the professions. At the present time, the high school should continue to be a fitting school for the professions, but in addition it has a range undreamed of a hundred years ago. It must be in reality a fitting school, but not alone a fitting school for college and the professions. It must fit all the youth of the community for the varied interests of the social life which they represent. The variety of occupations which the youth may enter at the present time is indefinitely greater than in Washington's time. The curriculum of the high schools must widen accordingly. Its courses should represent the occupations and interests of the community life of which it is a part. The pupils come from homes representing a great variety of industrial, commercial, and social activities, and it is but fair to presume that the activities of the children are destined to be fully as widely distributed. The high school must take cognizance of this fact and adapt itself to the conditions. A small per cent will enter the professions. Most high schools are traditionally ministering to this need. But how about the pupil who is to be a stone mason, a carpenter, an insurance solicitor, a banker, a bookkeeper, a machinist, a musician, an artist, a sculptor, a farmer, a

housewife, a printer? Are there any points of contact between the school and the chosen interest? Are their chosen occupations any more vocational or utilitarian than those of the lawyer, the doctor, the preacher? Surely it is not a college for the people that provides for the one class and leaves the other classes to shift for themselves!

Physical development fundamental. One fundamental requisite of any curriculum is to promote the physical development and welfare of the individual. *Mens sana in corpore sano* needs to be a constant watchword. No mediæval motives of bodily neglect or debasement as a means to spiritual exaltation should be permitted to again find place in our educational practice. The most important renaissance was not the revival of the Greek language, but the revival of the Greek conception of bodily prowess, grace, and beauty, and of the harmony between bodily and mental development.

The high school must be a guardian and promoter of physical health. This will demand a careful adjustment of the amount of physical and mental work which each individual pupil can best undertake. All must be helped to find and induced to take proper recreation, and sufficient training of the voluntary muscles to secure ease, economy, and grace in bodily movements. The high schools are at present leagues away from this goal. Athletic training is usually provided only for the few who do not need it, and is too frequently on the horse-race plan, whereby a few are over-trained for the amusement of the "sports." Physical culture must be provided for all. Gymnasiums must be equipped and, still better, acres of ground must be secured in connection with every high school, where all will have opportunity to indulge in the games suited to individual needs and inclinations.

The high school might also apply Aristotle's warning regarding overtraining in youth. He declared it to be rare for one to be a victor in the Olympian games both as a boy and as a man. The overtraining in youth had produced decadence rather than development. It is a notable fact also that the star "varsity" athletes are by no means always the same as those who starred on the high school teams. Not infrequently the "varsity" stars are those who developed naturally until mature and then were discovered.

Physiological instruction should also contribute to health. It is too often given merely as an intellectual discipline. Merely to catalogue the bones and muscles has no relation to the promotion of health. Physiology should be studied practically in connection with physical culture, athletics, the noon lunch, hours of sleep, periods of study and work, the formation of habits, ventilation, lighting and heating of homes, the disposal of garbage, the water system, the milk supply, sewage disposal, and public sanitation.

One of the best means of utilizing adolescent energy is through physical work and exercise. Vigorous muscular activity drafts off the bounding vital force into healthy channels and acts as a general tonic, physically, mentally, and morally. Fortunate are the boys and girls who can live on well regulated farms. Every boy who is not permitted to live on a farm ought to have a carpenter shop of his own, well supplied with tools and materials, and he should be encouraged to use it. Girls, too, ought to have physical work. Dishwashing, dusting, cooking, general housework, and gardening are better tonics and health preservatives than Latin, music, or fancywork. The latter have their very rightful places but should not be acquired at the expense of perfect physical development and health.

Interest in practical arts and industries. All study of

interests, instincts, and genetic psychology in general, indicate a deep-seated interest in the practical arts and industries. If we study the factors which have contributed most to human development, we find that practically all of the brain development and of mental powers were acquired before the invention of schools and formal means of education. How were these secured? Through the activities growing directly out of the arts of getting food, shelter, raiment, property, and æsthetic satisfaction. The racial development, secured since the invention of schools, might be represented by a dot while that obtained, antecedent to schools, would be represented by a line of great length. These activities have all left their tracings in the way of instincts and impulses with which we must reckon in any attempt to formalize education. Interests so fundamental should be ministered to and utilized in every way possible. The activities of the home must find representation in the school, and the school must in turn interpret and enrich the activities of the home.

Various forms of industrial work should be represented because of the interest they will furnish the pupils and also, of equal importance, because of the interest they will enlist in the parents. If the school furnishes nothing that appeals to the patrons as being related to real life out in the busy world, they can scarcely be expected to contribute liberally to the support of the schools. It is not difficult to understand why the people will support with comparative generosity the agricultural college; engineering, law, and medical colleges; schools of commerce, and other professional schools, while they draw the purse strings tight when philosophy, linguistics, and pure sciences are in question. They have not progressed to the point where they can see the relation of philosophy, language, and pure science, to every

day life. It is hoped and believed that in time they will appreciate the fact that man cannot live by bread alone. They must be led to see that there is a vital relation between pure science, philosophy, a high spiritual level of a people, and material prosperity. Without Agassiz, Pasteur, Spencer, Darwin, Huxley, Stephenson, Faraday, and a long line of investigators in pure science, our agricultural colleges would have been impossible, and we should still be reading by the tallow candle, and riding in stage-coaches.

But the average boy and his father are primarily interested in immediate results, and the schools must show that they have value even in that direction. Typewriting and shorthand are good discipline, if that is what we want, and are more necessary to every man or woman in business or in scholarly pursuits than longhand. By all means teach them, and give all an opportunity to learn them. Science when applied to cooking, sanitation, the care of health, the prevention of disease, the manufacture of radios, airplanes and dirigibles is not inferior to science as applied to reciting Newton's laws, cataloging the bones, or classifying plants. Their relations to life give them values not lightly to be underestimated. Drawing, painting, shopwork in wood and metals—all have a rightful place in any good high school. However, it is not alone in the specific subjects regarded as related to industrial life that the school should find its relation to life; it is as much in the new point of view from which the subjects are regarded and the new selection of materials from the subjects as in the specific subjects themselves. Any of the subjects can be shown to have a definite relation to life and life's problems. Any pupil can readily see, for example, that a perfect command of the mother tongue is an absolute essential to business success. He can also understand that a knowledge of literature and history

will give him a social prestige and an entree to the best society which is a fund of business capital in itself. In turn, the pupil should see that a study of Latin and Greek, if rightly taught, may contribute very materially to a more exact and enlarged idea of the mother tongue and of literature. I have visited classes which had studied Latin for a year and had never come to the realization that there was the slightest relation between Latin and English. They had regarded it as a thing apart from all other subjects. What we especially need is a better correlation of all the subjects in the schools, and of the subjects within the schools to the life outside of the schools.

Foreign languages should not be required Every high school should give at least one course leading to regular graduation in which no more than one year of foreign language is required. Tradition has somehow decreed that a study of foreign language is to be the badge of scholarship. It is a question, however, whether the large majority who do not go to college would not gain manifestly more that would profoundly influence their lives by devoting the same time to the great literatures of the world, to history, to economic and social questions, and to the marvels of modern science. The longer I teach advanced university students, the more I raise the question also whether we have not entirely over-rated the value of foreign language training even in academic study. I am impelled to inquire why so few students have any comprehensive knowledge of the fields of modern science, why so few have read the great literary masterpieces, and why so few have enough of the general view of the world's history to pursue advantageously, the history of philosophy or the history of education. The answers I secure are to the effect that foreign languages have monopolized all the time. Moreover, students have

almost nothing to show for the time spent on foreign languages. It is seldom that a graduate student can read references in a foreign language without a dictionary, and then only in the most painful, halting manner. The great majority of graduate students cram up on their required foreign languages in a purely perfunctory way merely to fulfill requirements. Supposedly they utilize the foreign languages in their research work. As a matter of fact they usually complete all courses, finish their theses, pass the examinations on the academic subjects, and then cram for the foreign language examinations.

Literature, history, and social sciences. Inasmuch as these subjects have been discussed rather fully in other chapters they will not be considered here. Objectives in teaching them were analyzed in connection with the period of preadolescence and also in the junior high school. Their special moral values were stressed in connection with character education.

Sciences in the high school. It is a striking thing in this scientific age, with marvels continually unfolding before our eyes, that the sciences are not popular with high school pupils. Recent investigations go to show that the great majority of girls and many boys evade the sciences altogether or emerge from the high school with the merest smattering of facts and an unhappy memory of their experiences in those subjects. Acquaintance with thousands of university students who plan to teach, has revealed to me the grossest ignorance of modern scientific achievements on the part of most of them excepting those preparing to teach the sciences. There are many reasons for this condition, a few of which will be mentioned.

1. Large numbers of teachers, especially in the small high schools, are not prepared to teach the sciences. They are

frequently required to teach from four to six different subjects, in several of which they have made no preparation. Under such conditions they neither know those subjects nor care to master them. They hope that they will soon be able to teach in a larger school and to concentrate upon their major subject.

2. There are thousands who regard teaching as a temporary expedient to secure a meal ticket. Such persons make no contribution to the teaching of the sciences or to any other subject.

3. Many schedules are so heavy that the teacher has not adequate time to prepare. The arrangement of the laboratory and especially of demonstration experiments makes heavy drafts upon the teacher's time. Hence the demonstrations are either badly carried out or omitted altogether.

4. In many cases equipment is so meager and so out of date that experiments cannot be properly made. Without modern apparatus it is impossible to make pupils feel that science has vital relations to everyday life.

5. Frequently teachers who have majored in some science have concentrated mainly upon the theoretical aspects of the subject. College professors in the sciences often lead their advanced students along purely theoretical lines. The professors are primarily interested in pure science and guide their major students in similar directions. In the universities the applied sciences are mainly taught in departments wholly separate from the pure sciences. Students preparing to teach, major in departments of pure science in colleges of liberal arts or science and not in divisions of engineering, bacteriology, public health, agriculture, aeronautics, forestry, fisheries, and the like. Consequently, prospective teachers may know the atomic theory and Avogadro's law but they know nothing of the chemistry of foods, the chemistry of

cements used in the concrete roads that revolutionize transportation, the marvels of modern dye stuffs, the mixture in a carburetor, the "cracking" of atoms to produce the gasoline in internal combustion engines, the manifold applications in medicine, photography, or soil rejuvenation. They may know the theory of pneumatics, heat, light, sound, and electricity, but be densely ignorant of their applications in plumbing, electric light plants, radio communication, aëroplanes, dirigibles, television, telephotometry, and all the rest of modern miracles.

Botany is frequently taught so that pupils could draw the *spirogyra*, could picture the cambium zone, could define a dicotyledon or a gymnosperm, but would not recognize at sight the multitude of trees and flowers in their neighborhood. They would not know the meaning of smut on corn or rust on wheat or what sprays would rid their rosebushes of infesting slugs. In biology they might have made microscopic dissections of pickled specimens of the amoeba, vorticella, earthworm, grasshopper, crayfish, frog, and cat. They might be able to recite scientific definitions of flagella, pseudopodia, antheridia, spermatozoa and spiracles, but never have thought about the inoculation of soils in growing alfalfa and clover, the use of sprays in protecting orchards from insect pests, the part the lowly earthworm plays in the disintegration of soils, or the losses caused by the corn borer, the cotton boll weevil, chinch bugs, or the lowly teredo that destroys millions of dollars' worth of wooden pilings at our seaports.

6. Few, indeed, of prospective teachers have studied their subjects from the teaching point of view. The majority study them purely as intellectual disciplines, as mere erudition. In this attitude they are encouraged by the professors in the academic subjects, most of whom have never

taught in a secondary school and who discount all professional preparation for teaching. The "teachers' courses" usually given by the academic departments are largely merely some more academic knowledge.

7. The great majority of the rank and file of teachers in the secondary schools are so superficially grounded in a scientific knowledge of child life and methods of teaching that they are wholly unprepared for the efficient teaching of any subject. They may know the academic facts in the subjects taught, but they know little of their applications to daily life, and are densely ignorant of what the child's abilities and interests are, and of scientific methods of teaching the child the facts singled out for learning.

8. Science courses in the secondary schools are largely determined by university entrance requirements. They are, therefore, so abstract and theoretical that they fail entirely to function vitally in the lives of boys and girls of adolescent age. Physics and chemistry especially are made so theoretical and mathematical that they repel all except a very few.

To make high school sciences attractive to adolescents, they should be taught by enthusiastic teachers, adequately trained in the theoretical and applied aspects of the subjects, thoroughly grounded in adolescent psychology and methods of teaching, with abundant modern equipment and ample time to arrange it, and absolutely unhampered by college entrance requirements. Instead of trying to present cut and dried logical systems of science, they should be entirely free to follow the lead of the pupil's interest. The psychological order should always prevail over the logical sequence.

Teachers should be free to make the subjects popular. They should give popular demonstrations of x-rays, wireless, telegraphy, television, telephotometry, liquid air, pho-

tography, electrical appliances, or chemical wizardry. When equipment for demonstrations are prohibitive in cost, they should have recourse to lantern slides and moving pictures.

Frequent talks and demonstrations should be given by engineers, electricians, automobile mechanics, machinists, inventors, manufacturers, physicians, and other technical experts. Excursions should be made to local industries, gas works, electric lighting plants, hydro-electric projects, cement industries, mines, railroad shops, and factories. Adequate library facilities should be provided, including books on popular science, current magazines, and the daily papers which chronicle the great events like Lindbergh's epochal Atlantic flight or the Graf Zeppelin's globe girdling feat in three weeks, making Jules Verne's eighty days seem ridiculous.

Not only should the science classes be kept abreast of current scientific movements, but the entire school from the fifth grade on, should keep on the *qui vive* for new thrills in the applications of science to everyday living. Morning talks, current topics, composition themes—all furnish abundant opportunities. There is no other phase of the school curriculum that offers such natural, such numerous, and such effective means of enlisting children's interest in the school and making the patrons understand the great significance of public education.

3. OBJECTIVES OF SECONDARY EDUCATION AS A WHOLE

Attracting and holding power should be increased. The high school should draw a larger percentage of the pupils in a community, and it must hold a larger number than it does. It is entirely uneconomical for the family or for the state to allow pupils to leave the schools before the age of twenty or twenty-one. Not fifty per cent of those who leave school before that time would be obliged to do so by their

parents or by real necessity. Most of them leave because they do not like to go. They cannot secure instruction in the subjects they desire, or the methods repel. The vigor of the business colleges is indicative of a lack in the public high schools. The youth resort to the business colleges to get what they have a right to expect but cannot get in the high school. Business or commercial courses are popular wherever offered in the high schools. Encouragement and advice should always attempt to cause the pupil to take other subjects at the same time, and to complete the full course. But even though the other subjects are not taken, the business branches should be allowed. Often a single subject taken will enlist the youth for the entire course.

High school a center of liberal culture. The high school should ever stand as an institution maintained primarily for the development of liberal scholarship in a community, but it must not fail to offer opportunities to all who can profit by advanced instruction whatever may be the subject desired. In the larger cities the evening high school must come to be a permanent feature. Its value to a city community is inestimable, as has amply been proven in scores of large cities. It reaches a class of persons, young men and women, who have neglected opportunities and now realize the fact, but whose time during the day is required for getting a livelihood.

The public high schools and colleges should ever remain true centers of liberal culture, but that does not mean that they should assume that only a certain few protected subjects are cultural. The liberality comes from the breadth of interests stimulated, the development of a scientific spirit and an openness of mind. The method which prevails is more indicative of liberality and culture than the program of studies. We may teach dead languages, but the teacher

and the method need not be dead. On the other hand, biology may be taught after a method that stifles expansive spiritual growth. Great abiding interests, breadth of view, and richness of social service, are marks of culture; adherence to tradition, contracted vision, and selfishness of action, marks of pedantry.

Meaning of liberal culture. Many underrate the educational value of that which has to do with getting a living. Great inconsistency, however, is shown, for when the occupation is to be teaching some of the so-called liberal arts, producing literature, or writing history, it is not considered narrowing. But if the occupations happen to be banking, railroading, commercial enterprise, engineering, law, or medicine, they are at once branded as technical and illiberal. It is erroneous to assume that preparation for a particular calling is necessarily illiberal and uneducative. Before a state teachers' association I recently heard a man in high pedagogical circles proclaim that the distinction between a college and a university is that the college gives a liberal training while the university gives technical training and not education. The distinction is entirely artificial. Whether a study is liberal or not depends much upon the attitude with which it is studied and which is developed in the pupil. Any study which considers fundamental principles is a science and is capable of affording liberal culture. Likewise any study which broadens one's views of life and its relations is cultural. Thus considered, are not law, medicine, engineering, agriculture, forestry, teaching, commerce, or journalism, liberalizing and therefore cultural studies? It is very significant that many of the great universities will now allow at least a full year of law work or medical work to count toward an arts degree. Engineering studies are frequently accepted in liberal arts courses, and

long courses in agriculture are on the same basis as any other science courses.

The high school should not become a trade school. Ideally, specialization for one's particular vocation should be deferred until near the close of the adolescent period. Many physiological and psychical potentialities are entirely undeveloped until adolescence. Consequently it is largely impossible to say what manner of man the boy shall be until nature has had a chance to assert itself. Special callings should not be fixed upon until one has had a chance to know the varied possibilities in the world and his own fitness for some selected few of them. It also goes without saying that the broader the range of interests the individual has, the better his perspective; also the larger the stores of varied knowledge, the greater applicability he will find for his own special work.

What is educative? Genuine education is only produced when there is a great headway of interest, causing the largest possible maximum of self activity. Melville B. Anderson wrote, "The way to educate a man is to set him to work; the way to get him to work is to interest him; the way to interest him is to vitalize his task by relating it to some form of reality." Vocational training and technique should be postponed until the close of the high school period, and two or three years later if possible, yet we must acknowledge that a livelihood study may be just as educative as the subject of which the professor said, "Here is an ideal educative subject, for, thank heaven, no one can ever use it!"

Superintendent Balliet, in pleading for manual training, argued that one of its chief virtues is that it teaches self-dependence. He said:

I believe that few things in a boy's life appeal more deeply to

his manhood than this feeling of self-dependence; and I fail to see why the earning of an honest dollar by a boy, purely for the sake of the dollar, should be more sordid than the begging of an unearned dollar from his father, or the depending on his father for all the dollars he needs for his support without furnishing any equivalent for them. If idleness, shiftlessness and pauperism are immoral in their tendency, if not in their very nature, then there are worse things for which our schools may be responsible than teaching a boy to earn an honest living.

Many students go through school and college with little educational development, and, on the other hand, get their first educational awakening only on entering the technical schools of medicine, law, or engineering. It is only when interest in something has been developed to a white heat that real education begins. To loiter through school and take everything perfunctorily without forming great resolves, without having sympathies awakened, is not to become educated, even though the lessons have been recited correctly. I have gone through medical schools and seen men with coats off, in groups listening eagerly to instructors, observed that they work uncomplainingly from early morning till late at night, six days in the week. Engineering students have a fuller schedule than liberal arts students. Law students talk over their work more than most liberal arts students, showing that the work takes a vital hold. It has been said that engineering students will soon be the best educated of any class of university students because of the method and the characteristic application which they give and because they become workers in first hand knowledge rather than scholastic experts in second hand knowledge.

It is very erroneous to believe that only those processes which are made systematic, well regulated, and habitual are of value. There is much that is highly educative besides drill and drudgery. Is it of no value to meet with fellow

students and with great teachers? Is it of no importance to listen to stirring music, to hear a Wendell Phillips, to snatch up a book of poetry during the noon hour, to go to church and feel the solemnity of the occasion, to read a thrilling book of fiction, to view a gorgeous sunset, to visit the art galleries of Dresden or Rome, to wander through the ancient monasteries and view the historic scenes of foreign lands? The knowledge of this character which most of us possess is decidedly fragmentary, but who dares discount its value? The thrilling oration of a Beecher, a Phillips Brooks, which one has heard, may be the seed thought which has germinated and developed a new career. But few could pass examinations upon any of these things.

After all, the acquisition of right ideals of life are the worthiest prizes to be gained from school or college. The rascals are not all fools or untrained. The kings of frenzied finance are shrewd in the extreme, have learned concentration, can calculate in a manner never learned through mathematics, can reason as finely as a middle-age logician; but their educations are valueless, worse than that, they are instruments of danger because of distorted notions of life, its rights, and, most of all, its duties, and because they are not made valuable through right motives which impel to noble action. These motives are usually gained from associates, from general reading, and from things apart from the daily assigned tasks. In developing ethical ideals the content of what is read or heard is all important; the formal logical presentation is of minor consequence.

These things being true, we are plainly admonished that the greatest education of life may be gained entirely apart from the most formal school work. Moreover, one person is touched in one way, another in a different way. As President Seerley has said, "Education is not accomplished

by the application of any certain specific methods of instruction, by the learning of certain definite lessons, by the taking of certain prescribed branches, by getting the capability to pass creditably certain peculiar examinations. Many inventors of magic methods of learning and teaching, many manufacturers of systems of schools, many manipulators of the machines of modern schemes of civilization would like to have such a condition of education and are working hard to convince the people of the wisdom of their philosophy, but such a proposition to bring about fossilization will always be rejected by master minds in the practical world of affairs and should be repudiated as lacking in the genuine qualities that insure the best manhood and the best capability."

President Hyde said that the function of the college is liberal education, which he explains as "the opening of the mind to the great departments of human interests; the opening of the heart to the great spiritual motives of unselfishness and social service; the opening of the will to opportunity for wise and righteous self-control."

4. SPECIAL PROBLEMS OF THE RURAL HIGH SCHOOL

One of the gravest problems in secondary education is that of the rural high school. At the present time of all the public high schools in the United States only 2,060 schools are in towns with a population of 2,500 or more, while 14,266 schools are in towns having a population of 2,500 or less. About half of all high school pupils are in the rural high schools. Ideally, the village high school might offer the most unique opportunity conceivable in all public education. The simple environment, the intimate knowledge of the school by the patrons, the opportunity to utilize the community interests in connection with the school, the rich-

ness of opportunity to develop individual initiative as compared with the unwieldy city high school—all make the problem remarkably attractive. But a survey of the actual conditions compared with the possibilities makes one depressed. Note the frequency of poor buildings, the unattractive and inadequate grounds, the meager libraries and laboratories. Above all, is the saddening teacher problem. It is to these schools that the fresh college graduates, some professionally trained, more not trained, are annually sent to try out and gain their experience at the expense of the community. If they prove efficient, develop any zeal and professional spirit, in a year or two they are sought out for the nearby city high schools. The rural high schools are the main recruiting stations for the large city high schools. The annual turn-over is so great that each September witnesses the assembling of a heterogeneous group of teachers indiscriminately selected for the year's job. No common ideals for the community to motivate them, the distribution of subjects is a hit-or-miss arrangement, teachers often being required to handle subjects for which they have made absolutely no preparation. Sometimes they must teach six or seven different subjects each day. Add to these the community activities in which they are supposed to participate and one can readily see that overwork, discouragement, and not seldom failure, result. The more I contemplate the situation, the more I marvel that so many beginners succeed.

The course of study in such schools is either very narrow, or if nominally extended by adding subjects, is so poorly organized and unrelated to the pupils' life interests that it is largely meaningless to them. Pupils feel the situation, though they do not understand it, and as a consequence become careless, indifferent, and slipshod in their work. They either dawdle along or drop out altogether.

As paramount objectives of the rural high school we must secure without delay (a) more teachers than at present in relation to school population; (b) teachers with superior qualifications; (c) more adequate salaries so as to secure longer tenure in a given school; (d) fewer subjects per teacher and a better grouping of subjects; (e) better social adaptation of school subjects and pupil environment to the work of the school.

5. VOCATIONAL GUIDANCE

Intelligent guidance toward a later selection of a life work is an important objective of the secondary school's ministrations. Vocational training may be a means to that end but vocational skill, technique, and information should be acquired later. It is also questionable whether the secondary school can give efficient vocational training in many lines. The apprenticeships have proven much more successful in many countries. During the secondary school age the purpose should not be the crystallization of habits but the maintenance of plasticity of mind and body. Hence real education is opposed to the acquisition of final vocational skill at that age. Vocational guidance and the development of vocational interests are perfectly legitimate and desirable, but the skill and technique for life's occupation should come when interests have been evaluated and convictions regarding life's work have become settled. Otherwise misfits are likely to occur. The high school should keep as many as possible out of the wage-earning occupations until near full maturity. Dr. Snedden says:

The average high school never will be the place for vocational education. The high school is the place of general education where the curriculum is devoted to courses intended for the liberal arts education, and by which more intelligent civic and moral citizens are built. I will never be reconciled to the idea

that vocational training is of any practical benefit to the child under sixteen years of age.¹

Inculcate ideals of service. The keynote of the highest teachings of the school should be the doctrine of service. Unfortunately many pupils leave the high schools without any comprehension of the ways in which they may be of service to society, or of the obligations resting upon them as members of society. We should not seek the remedy in the introduction of new subjects termed "subjects for service," but rather in the new interpretation of the subjects already within the curriculum. It is important that in beginning a subject the question should be raised as to whether it may help us to be of service to humanity and before it is finished there should be a definite feeling that such a result has been gained.

How richly such subjects as civics, physical geography, commercial geography, chemistry, economic biology, might contribute to these ends, but how often the subject is pursued without even touching upon a single question which the pupil feels is vitally related to his welfare. Instead of beginning with the problem of the community of which he is a part, he is made to recite the constitution from the preamble to the nineteenth amendment.

Notwithstanding the contentions of many that the processes of education are all important and the products of little consequence, yet the pupil regards the products as of vastly greater worth than the processes. The boy voluntarily makes kites, sleds, and fishing tackle, because he desires the products. He is not one whit concerned about the growth of his mind. If algebra, history, and Latin are to be studied willingly, diligently, successfully, they must appeal to the boy as distinctly worth while, otherwise they are pursued indifferently or escaped altogether. In real life

¹ *Journal of Education*, Feb. 26, 1925

we do things because we believe the ends, the products sought, are indispensable, not because we think we ought to have the gymnastics. That subjects rich in content and yielding products which appeal to boys as being distinctly worth while are possible and valuable, we have abundant evidence in such testimony as that of Dr. Cheesman A. Herrick. He says:

Discipline, broad intelligence in the best sense of the word, has been secured from practical studies in agriculture, engineering, and technology, manual training, and more recently in commerce. Facts or principles that have utility are not thereby invalidated from serving as furnishings in a mental gymnasium. While interest is increased from the practical aspects of data, this is no sense prevents such material from serving the ends of training. An alumnus of Brown, now professor in the University of California, in a recent public address indicates a change toward this whole matter of practical education; he tells us with what disdain he and his fellow-students of the classics looked on those "less gifted, less fortunate, oft misguided" individuals who did not study Greek, philosophy and the like. But in fifteen years the practical studies have so well demonstrated their worth that this man is led to say: "Such courses have not only established their utility, but they have won a general recognition for dignity, and the fortunate possessor of such training is regarded as quite as distinguished as he whose head is full of Greek or the more difficult Sanskrit."

The value of any subject in the curriculum must be determined by its possibilities of furnishing the mind with materials which will enable the individual to utilize his environment advantageously or which will direct his mind toward righteous actions. This means that content is to be the test of the value of any subject in the curriculum. No subject should have a place whose content has not intrinsic worth. According to modern psychological teachings no subject can be justified on the ground of discipline alone. The high school should not be considered as a place

where a certain amount of formal discipline is doled out, supposedly preparing the pupil for any sort of mental fray. Power is special and not general. No subject has a monopoly of educative values. All are valuable provided they enlist enthusiastic effort and stimulate permanent life interests.

The high school must teach pupils to think, that is, to weigh, to compare, to form independent conclusions from data under consideration. While uncritical receptiveness characterizes childhood's learning, the youth is ready to challenge and investigate. This should be encouraged. Too often the school makes an echoist of him because of its juvenile methods. It gives him nothing that preëmpts his mind but busies him with parrot recitations of definitions and formulae. To teach him to think, we must give him something to think about. That is, something in which he individually is interested. What subjects interest ordinary boys and girls? What subjects occupy their thoughts when not actually required to prepare lessons?

The boys and girls of to-day are to be in the midst of the world's affairs of to-morrow, and yet there are many teachers who would designedly isolate them from the world about them, busy them with expressions of thought absolutely remote from the theatre of present day action and interests, make them learn forms and formulæ which the majority will never use directly or indirectly, all in the hope, well meant, that they are teaching them to think. The only way to learn to think is to deal with fundamental concepts which are felt to be worth while. If we merely wish to give something hard, why not give them Russian or chess?¹

6. CITIZENSHIP THE HIGHEST OBJECTIVE

The supreme importance of great teachers. Finally, and of greatest importance as educative factors, are the per-

¹ Cf.—Bolton, *Principles of Education*, p. 775

sonality and influence of the living men and women who are in the environment of the youth. We are too apt to regard education as a manufactory. So many units of Latin, mathematics, and history, put into the hopper will give us back an educated being. But no matter how well proportioned the mixture may have been, unless the great truths and worthy ideals have been transformed into spiritual forces, all is unavailing. Civic ideals and moral virtues may have been rehearsed, but only when they have quickened dormant possibilities into abundant life have they been, to any worthy degree, educative. Great, inspiring, living teachers can do infinitely more than the mere pursuit of a subject toward the determination of what shall take root. Next, and perhaps not even second in importance, is the influence of companions. Someone has said with great truth: "We send our boy to the schoolmaster to be educated, but the schoolboys educate him." Great teachers largely determine a youth's interests, and almost entirely his actions. And, after all, actions count most. We will with all we have willed, and every act is the beginning of a habit that becomes a lifelong phantom tyrant.

Hence, although every subject may contribute to will-power, the direction in which that power will be applied is absolutely determined by the great interests and passions which may happen to lay hold of the youth's life. So the course of study, the paper curriculum, which every new principal "revises," is a secondary matter. The all-important thing is to have great souls that breathe out abundant life, inspiring and invigorating all with whom they come in contact.¹

That the school should be adapted to the changing needs of civilization is a trite saying. That the present-day school

¹ Cf.—Bolton, Frederick E. "Facts and Fictions Concerning Educational Values." *School Review* (February, 1904), 12: 170-188

should fit the pupil for the present-day busy, bustling, industrial, and commercial conditions has become almost as generally accepted and as commonplace. The great slogan of the industrial and commercial world is efficiency. "Training for efficiency," "how to secure efficiency in business organization," "efficiency in farm management," are typical of hundreds of articles in the popular and scientific magazines. How to secure more units of output with fewer units of outlay is becoming a great and enticing game. The dollars gained are again staked in the game of trying to secure still more units of output with still fewer units of outlay, so that the units of gain may be greater to again stake upon fewer units of outlay, in the hope of securing still more units of gain, and so on.

The school is regarded by many merely as a means of preparing pupils for efficiency in the various vocations. It has steadily modified its curricula in the attempt to meet this imperious demand. In the early days of this country the school attempted to educate for efficiency in a limited number of vocations—the so-called learned professions of law, medicine, and the ministry. But those vocations were quickly overcrowded, and education was demanded for the masses instead of for the few in the selected classes. Even seventy-five years ago the college curriculum was exceedingly limited in scope. Hawthorne wrote to his mother at graduation, "I do not wish to be a lawyer and live off men's quarrels; neither do I wish to be a physician and live off men's ills; nor do I wish to be a minister and live off men's sins; there is nothing left for me to do but to write books." It would be fortunate for the world if all who could not be happy or efficient in law, medicine, or the ministry, could write such books as Hawthorne wrote. But even with the addition of authorship to the limited range of vocations for

which the schools and colleges gave some training, the circle was altogether too limited.

As a consequence, very recently the scope of education has been infinitely extended, and we have attempted to reorganize the curricula in such a way as to provide a great variety of vocational training. The elementary and high schools have manual training, shop work, forge work, domestic science, bookkeeping, commercial law, stenography, typewriting, commercial German, Spanish, French, Esperanto. The universities have added many of the foregoing, besides pharmacy, dentistry, education, fine arts, engineering, journalism, and others. Besides these there have arisen schools of agriculture, and technical high schools and colleges, normal schools, and schools for various arts, trades, handicrafts, and occupations. The number and variety of courses within these schools are almost bewildering to contemplate. So great has been the effort to provide efficiency in some definite vocation that the dissection of courses has become almost humorous. I noticed only a short time ago twelve distinct college courses in poultry-raising. I also noticed that dairying had been divided into many courses, one of which was an entire course in ice-cream making.

Vocational training is undoubtedly a good thing. The man without a regular vocation in which he is reasonably efficient is a dangerous man. The nation without industrial vigor and efficiency is a decadent nation. Germany glimpsed that idea and tried to forefend the deficiency. England is awakening to her impending dangerous industrial condition and is striving to remedy it through vocational and technical education. Every man ought to have a means of gaining a livelihood. Every nation must encourage the handicrafts, trade, and commerce, and seek efficiency in all

of them. But are these all, and are they most fundamental? While Spencer is right in maintaining that utilitarian ends are fundamental in life's activities and therefore should be in education, must we not interpret anew the term "utilitarian"?

A great philosopher once characterized a university as a "place where *nothing useful* under the sun is taught." That definition does not aptly characterize a modern university. It is rather a "place where *everything useful* under the sun is taught." This is a grand conception if we properly interpret the word "useful." If we accept the definition of Sir William Hamilton that "everything is useful that is not useless," then, according to that interpretation, whatever contributes to human welfare or happiness is useful. The one who paints a great picture, composes or executes a great symphony, or pens a great poem, is no less useful to society than the one who builds a bridge, discovers a scientific formula, or harnesses steam and electricity.

The ideal of "training for efficiency" in the gainful vocations is crowding out all other ideals, and its dominance means danger. Efficiency in a gainful occupation as an ideal unmodified by higher ideals means selfishness and sordidness. That ideal of efficiency is tending to crowd out all opportunity for fostering the development of altruism and all the finer sentiments that are contributory to it.

The dollar-sign has become so thoroughly accepted as the sign of success and efficiency that whenever a successful man is mentioned, the autonomic inquiry is likely to be: "How much is his salary?" "How many shares of stock does he own?" "How many railroads or corporations does he control?" The men who voluntarily engage in some occupation regardless of financial remuneration and solely because it offers opportunity for service are rare indeed.

Witness this in the decreasing number who enter the ministry, teaching, and certain fields of authorship. Also witness the same tendency in the tons of drivel stuff that is published in magazines, books, and newspapers under the name of literature. This last certainly indicates efficiency in studying and catering to the perverted instincts of a certain reading public, but what about the soul growth and expansion of the writers and the intellectual and moral uplift of the readers?

While this is a great age of organization, have we yet grasped the real meaning of organization? Men frequently join a club, a lodge, or a society, with the avowed idea of making the organization a means of their own advancement. They believe that belonging to many lodges and clubs may further their own cause financially, politically, or socially. Much in the same way many young men go to high school and to college. They believe that somehow through the acquaintances made and the diploma secured—not always earned—their chances in business, or in politics, will be furthered. When a young man is offered a position, his first question is apt to be: "How much is there in it?" Not: "How much can I put into it?" "How much service can I render?" "How much can I do for which I am not paid?"

Similarly, we have conceived of national organization. That country is apt to be regarded as the greatest, the mightiest, which can achieve the most for itself, can most completely dominate all others for its own selfish ends. We ask how extensive are its dominions, how strong its army, how efficient its navy, how rich its mines, how fertile its fields, how shrewd its men. Should we not ask instead: How fine are its schools, how justly governed its cities, how empty its jails and poorhouses, how unnecessary its hos-

pitals, how justly its laws administered, how free from vice, graft, and corruption, how charitable and magnanimous its people?

The fact that present-day civilization is so devoid of higher idealism, that selfishness and its attendant phenomena of greed, graft, bribery, and corruption are so shamelessly apparent, that our law-courts are so remiss in the administration of justice, that our jails and almshouses are so crowded, that the dollar sign is the chief mark of greatness—all these facts and hundreds more point unequivocally to the next necessary step in education.

Every means must be employed to instil worthy ideals of conduct and character; every possible attempt must be made to awaken dormant consciences, to arouse the nobler sentiments, and to inspire manly and womanly impulses. Emotions are the mainsprings of life. Properly develop the nobler emotions and all else will follow—even efficiency. Instead of following Huxley's definition that education should develop the mind into a clear, cold, logic engine, we should follow Milton, who says that education should fit the individual to perform skilfully, justly, and magnanimously all the arts of peace and all the arts of war.

The ideal must be shifted. The school must train not for efficiency alone, but it must be the instrument of liberal culture, awakening and ministering to all the higher instincts, of refining the soul and purging it of all that is base and ignoble, of stimulating to the higher forms of unselfish social service.

We shall continue to teach the vocational subjects, we shall still need the technical and trade schools, but the ideal ends to be gained must be changed. The vocational courses should have some time for literature, history, sociology, art, and ethics. The lawyer, doctor, engineer, and tradesman

all need these as much as they do the technical branches. The great problems of the world which demand immediate solution, if our civilization is to endure, are not primarily questions demanding technical skill, but are social and moral questions. There is skill enough, scientific knowledge enough, available, if there were only courage enough, honesty enough, and unselfishness enough in applying the knowledge. No one of them demands any great amount of shrewdness or technical skill. A strict application of the ten commandments would solve almost every really great question confronting the world.

Should not the center of gravity in the elementary and high school courses be in those subjects that deal with these ideals for which I have contended; those subjects which do not prepare even remotely for the trades, crafts, or professions; those which have no relation to the development of efficiency in any specific occupation; but rather deal with the fundamental principles of human conduct? Conduct is the supreme test of life. Should not those subjects which promote ideal types of conduct have a larger place in the curricula?

Governor Gifford Pinchot recently said in his address to Pennsylvania school teachers, "To be successful, life needs to be more than practically efficient. It must be broad and fine as well. For that reason I am a strong believer in giving such time as can properly be devoted to them to the arts, including music, for I have come to realize the value of training not only for the work of life but for the great and beautiful things of life as well."

If the inculcation of worthy ideals is a more important educational end than "training for efficiency," then literature, history, poetry, music, and art, all of which deal with the emotions and uplifting ideals, are fundamental and not

to be considered solely as an ornamental factor of education. Poetry, art, and music are just as important for the hewers of wood and drawers of water as for the men whose lives are spent in the realm of scholarship. Aesthetic and moral inspiration are the only factors in their lives which make for contentment and happiness and tend to lift them to higher levels of work and happiness.¹

A tribute to a great teacher—Mark Hopkins. This chapter may be fittingly closed by reproducing Arthur Guiterman's tribute to one of America's greatest teachers—Mark Hopkins—and his equally illustrious pupil, James A. Garfield.

Mark Hopkins sat on one end of a log,
And a farm boy sat on the other.
Mark Hopkins came as a pedagogue
And taught as an elder brother.
I don't care what Mark Hopkins taught—
If his Latin was small or his Greek was naught—
For the farmer boy he thought, thought he,
All through lecture time and quiz,
"The kind of a man I mean to be
Is the kind of a man Mark Hopkins is."

Theology, languages, medicine, law
Are peacock feathers to deck a daw
If the boys who come from your splendid schools
Are well-trained sharpeners or flippant fools.
You may boast of your age and your ivied walls,
Your great endowments, your marble halls,
And all your modern features—
Your vast curriculum's scope and reach,
The multifarious things you teach—
But what about your teachers?
Are they men who can stand in a father's place,
Who are paid, best paid, by the ardent face,
When boyhood gives, as boyhood can,
Its love and faith to a fine true man?

¹ Bolton, Frederick E. "Idealism in Education." *Scribner's Magazine*, January, 1925, 77-95

No printed word nor spoken plea
Can teach young hearts what men should be.
Not all the books on all the shelves
But what the teachers are themselves.
For Education is Making Men:
So is it now, so was it when
Mark Hopkins sat on one end of a log
And James Garfield sat on the other.

—ARTHUR GUITERMAN

In *The Light Guitar*

SELECTED REFERENCES

- BOBBITT, FRANKLIN. "The Objectives of Secondary Education." *School Review* (December, 1920), 28:738-749
- BODE, BOYD H. *Modern Educational Theories*. The Macmillan Company, 1927
- BOLTON, EDWIN LATHAM. "An Analysis of Five Textbooks on Physics." Unpublished master's thesis, University of Washington, 1925
- BOLTON, FREDERICK E. "Facts and Fictions Concerning Educational Values." *School Review*, February, 1904, pp. 170-188
- BOLTON, FREDERICK E. "Should Physics Be Required for University Entrance?" *School Review* (June, 1924), 32: 432-441
- BOLTON, FREDERICK E. "Idealism in Education." *Scribner's Magazine* (January, 1925), 77: 95-97
- BOLTON, FREDERICK E. "Some Paramount Objectives of Secondary Education." *Education* (January, 1927), 47: 285-295
- BUTLER, NICHOLAS MURRAY. *The Meaning of Education*. The Macmillan Company, 1927
- Cardinal Principals of Secondary Education. United States Bureau of Education, *Bulletin* No. 35, 1918
- CLEMENT, JOHN A. *Curriculum Making in Secondary Schools*. Henry Holt and Company, 1923
- DOUGLASS, AUBREY A. *Secondary Education*. Houghton Mifflin Company, 1927
- FITZPATRICK, EDWARD A. *The Scholarship of Teachers in Secondary Schools*. The Macmillan Company, 1927
- HANUS, PAUL H. *Educational Aims and Educational Values*. The Macmillan Company, 1899

- HOLMQUIST, A. M. Biological Sciences in Minnesota High Schools. *School Science and Mathematics* (February, 1922), 22: 166-174
- INGLIS, ALEXANDER J. *Principles of Secondary Education*, Chap. X.-Houghton Mifflin Company, 1918
- JUDD, CHARLES H. *The Psychology of Secondary School Subjects*. Ginn and Company, 1928
- KOOS, LEONARD V. *The Administration of Secondary School Units*. Supplementary Educational Monographs, Vol. 1, No. 3. University of Chicago Press, 1917
- KOOS, LEONARD V. *The American Secondary School*. Ginn and Company, 1927
- REED, PAUL M. An Analysis of Five Text Books on Chemistry. Unpublished master's *thesis*. University of Washington, 1929
- SPENCER, HERBERT. *Education*, especially the chapter "What Knowledge is of Most Worth." D. Appleton Company, 1860
- UHL, WILLIS L. *Secondary School Curricula*. The Macmillan Company, 1927
- UHL, WILLIS L. and others. *The Supervision of Secondary Subjects*. D. Appleton and Company, 1929

CHAPTER XVI

CHARACTER EDUCATION

1. A NEW INTEREST IN CHARACTER EDUCATION

General evidences of interest. During the last five years a new and intensified interest in character education has developed throughout the entire civilized world. There has been a large output of books and magazine literature on the subject. Even the daily press has made frequent contributions. Various social and civic organizations have arranged and carried out programs of discussion and have occasionally been instrumental in securing constructive local or state legislation to further character training.

State teachers' associations have featured character education programs. Definite courses and seminars are being offered on character education in many colleges, universities, and normal schools. Several research bureaus and institutes in character education have been established and are functioning vigorously. Some of those will be considered definitely in subsequent pages. In 1926 the National Education Association appointed a Committee on Character Education which has been very active and has made some important contributions. Some of the findings of that Committee will be indicated later. The World Federation of Teachers' Associations has for its main specific objective the furtherance of character education. Among the resolutions of the Federation it is declared that "It is the mission of the World Federation to bring together the leaders of youth and form social and professional contacts which will enable them to see the way more clearly and thus lead

the rising generation to right thinking and right attitudes."

In 1926 the Committee on Resolutions of the Department of Superintendence of the National Education Association, among other utterances, proposed the following important foundation objectives of the public schools:

We believe that the fundamental purposes of the public schools of to-day are essentially what they always have been—to train the pupil for character and for citizenship, to stimulate a zeal for knowledge, to develop the power to think clearly, and properly to lay the foundation of an education. We believe that the ideal system of public education will give to every boy and girl a sound, vigorous body, an intelligent understanding of the laws of health, high ideals of useful service and the capacity to render it. It will inculcate in these boys and girls habits of reverence, honesty, thrift, industry, and fidelity in the discharge of responsibility. It will develop a generation of citizens with an intelligent understanding of their peace-time obligations to the city, the state, and the country in which they live. It will develop an ideal of democracy clearly distinguished from disorder and a thorough comprehension of the theory of a representative government. It will give to its graduates a capacity for enjoyment which is innocent, elevating, and refining. It will produce attitudes of mind indispensable to the intelligent and pleasurable use of leisure time. It will emphasize in every possible way the importance of worthy home membership. We believe that the attainment of these objectives would represent very nearly an ideal system of education.

The following year, 1927, Superintendent Randall J. Condon of Cincinnati, then President of the Department of Superintendence, beautifully expressed similar beliefs.

Teach reading, writing, and arithmetic, of course, but not as fundamentals, except as in the learning one is taught to read fine things, to write beautiful thoughts, and to know that in the fundamentals of life the sum of one's happiness cannot be obtained by subtracting from others, and that the way to multiply the value of one's possessions is to divide them with others, especially with those in need. Teach geography, but only that to world knowledge may be added world sympathy and understanding and

fellowship. Teach history that against its gray background of suffering and sorrow and struggle we may better understand the present and may protect a fine future. Teach civics to make strong the ideals of liberty and justice, and to make free, through obedience, the citizens of a republic. Teach science, but always as the handmaid of religion, to reveal how the brooding spirit of God created the world and all that is therein, and see the stars in their courses, in accordance with the eternal laws that He himself had ordained. Teach music and art and literature. Reveal beauty and truth. Inculcate social and civic ideals.

Teach that which gives intelligence and skill, but forget not soul culture, for out of this comes the more abundant life bringing forth the fruits of the spirit. These are the real fundamentals in education, for character is higher than intellect and the soul shall never die.¹

Expressions of two Presidents of the United States. President Calvin Coolidge, a sincere believer in the fundamental virtues as the real objectives of life and education, said, "It is not only what men know, but what they are disposed to do with that which they know that will determine the rise and fall of civilization."

President Herbert Hoover, ever a living exponent of true and unimpeachable character, has become a fearless and outspoken champion of every ideal and principle that betokens soundness and integrity of character. This open expression, in one of his personal strength and position of leadership, bespeaks incalculable momentum for the cause of character education. One of his numerous choice expressions follows:

But after all our schools do more than merely transmit knowledge and training; they are America itself in miniature, where, in a purer air and under wise guidance, a whole life of citizenship is levied experimentally with its social contacts, its recreations, its ethical problems, its political practice, its duties and its rewards.

¹ Randall J. Condon, President of the Department of Superintendence, National Education Association. From the *Journal of Education*, Jan. 24, 1927, Vol. CV, No. 4

Ideals are developed that shape the whole adult life. Experience is gained that is valuable for all the years of maturity. I would be one of the last people in the world to belittle the importance of the exact knowledge that teachers impart to their pupils—as an engineer I set a high value upon precise information—but knowledge, however exact, is secondary to a trained mind and serves no useful purpose unless it is the servant of an ambitious mind, a sound character, and an idealistic spirit. Social values outrank economic values. Economic gains, even scientific gains, are worse than useless if they accrue to a people unfitted by trained character to use, and not abuse them.¹

Awakening among business men. Even big business is coming to recognize that “honesty is the best policy.” Many business houses employing personnel directors are emphasizing character traits as the fundamental qualification for employment. Some testimony from this source is included in this chapter.

The following plea for character training might be thought to have been penned by an academic college professor were its authorship unidentified. It comes, however, from a hard-headed successful business executive and therefore should have great weight with practical minded youth. It is quoted with approval, not because it endorses classical education, but because it pleads for character training as overshadowing all personal acquisitions of business efficiency. Mr. Woollen says:

Business needs several things more than it needs the education called “practical.” It needs open-mindedness—that generous-mindedness that comes with the habit of accommodation, the habit of trying tolerantly, sympathetically to understand the other man’s point of view and to be respectful to his personality. . . . It needs clear-thinking youth for the long pull more than it needs vocationally trained youth with their temporary advantage.²

¹ *Journal of the National Education Association*, April, 1926, 15: 105

² Evans Woollen, President, Fletcher Savings and Trust Company, Indianapolis, Indiana. From *What the Colleges are Doing*, January, 1926, p. 5. Ginn and Company

A recent number of a publication devoted solely to training for business contained a significant statement emphasizing character as the chief qualification for business success.

The fact is that about seventy-five per cent of the dismissals from jobs are due not to lack of skill or understanding of the thing to be done, but to lack of the understanding necessary to success in any field—the need for honesty, perseverance, trustworthiness, etc. Granted these two conditions, we are making a mistake to emphasize only the technical skills performed by a few people, rather than the development of a commercial intelligence which will be a useful background for all the students. It is important that the schools teach this understanding of commerce and the road to effectiveness at work rather than merely the concrete skills which only a few will ever use.¹

That character is recognized in a practical way as the chief objective of education by many business men is illustrated by the emphasis which they place upon it in making inquiries regarding future employees. A sample of a type of letter which I frequently receive is herein copied.

————— TRUST AND SAVINGS BANK
CHICAGO

January 10, 1928.

Dear Sir:

We are thinking of employing Mr. ——— in our Banking Department.

Inasmuch as we shall expect to retain him permanently on our staff, and give him careful training in our business, we are making a searching inquiry about his antecedents, experience and personal characteristics.

We should like to know about his family history, home influences, companions and pastimes, business record and reputation. If you know him well enough to do so, please give us your opinion of his aptitude for our work, his ability to make friends, his capacity for hard work, his patience and perseverance, his intelligence, his integrity and character.

Your comments upon any or all of these points or any other information that will help us to make a fair appraisal of him, will be appreciated and held in strictest confidence.

Very truly yours,

Assistant Treasurer.

¹ Beatley, Bancroft, *Spotlights on Commercial Education*

Spontaneous applause of Lindbergh's character. The most appealing object lesson in character and citizenship in all history came dramatically in the epochal exploit of Lindbergh. Nothing that could possibly have happened had all the wise men of the world coöperatively planned it, could have done so much to elevate character as the supreme aim in the education of youth. Important as was his wonderful achievement for aërial navigation, ten times more important will be the story of his character if only parents and teachers grasp its full significance and utilize it in impressing the superlative value of character as compared with the mercenary advantage which loom so large in the minds of youth.

When Lindbergh returned from Paris on his epochal flight, President Coolidge, as the spokesman for the people of the United States, presented to him a medal and the message from an adoring public. In pinning the Distinguished Flying Cross upon Lindbergh, the President characterized him in words quoted from old War Department records:

"Intelligent, industrious, energetic, dependable, purposeful, alert, quick of reaction, serious, deliberate, stable, efficient, frank, modest, congenial, a man of good moral habits and regular in all his business transactions." One of the officers expressed the belief that the young man "would successfully complete everything he undertakes." This reads like a prophecy. The absence of self-acclaim, the refusal to become commercialized, which has marked the conduct of this sincere and genuine exemplar of fine and noble virtues, has endeared him to every one. He has returned unspoiled.

The St. Louis Star remarked editorially:

He has done more to create good feeling and increase the prestige of the United States in Europe, recently at low ebb, than any American since George Washington. Why? If you analyze the news accounts of the receptions for him, you will see that his most striking characteristic for Europe is that he neither brags

nor is a money-grabber. Europeans believe all Americans are both, judging by some samples. They hear some Americans boast and believe all Americans are braggarts. They think that pursuit of the almighty dollar is America's religion. Lindbergh is modest. He has turned down offers to exploit himself that would have netted millions. He is everything that Europeans believe the Americans are not. The last man of his type that Europe knows anything about was George Washington.

Character the paramount aim of education. Too long have we considered the schools as institutions having for their main or sole objective (1) intellectual discipline, (2) the acquisition of intellectual information, or (3) the training for a specific vocation. While any or all of the foregoing may be legitimate objectives, they do not constitute the paramount aim of education.

In determining a pupil's fitness for graduation from the high school we have gone to the records of his grades in the various subjects. If he has a minimum grade, say D or seventy per cent, in each unit required and an average of C or seventy-five per cent in all, we say that he is entitled to be graduated. We have not inquired about his attitude toward life, its duties and obligations, his conduct, his citizenship, his character. Of course, gross immorality or a criminal sentence would have eliminated him from graduation, but anything short of the most flagrant offense would not be considered in deciding upon eligibility for the great public honor.

What a boy loves is of more significance than what he knows. Does he like good wholesome companions, to play square in vigorous sports, and good clean fun? Does he enjoy fine people; does he applaud square dealing in school and in civic life; does he enjoy and read fine, uplifting books; does he thrill with music and art portraying noble ideals? Or, does he seek low, degraded, dirty, and vicious

companions; does he relish smutty stories; does he pick out depraved girl companions? In short, does he prefer all those things which degrade, debase, and contaminate, and which are shunned by right thinking people? If these latter appeal to him he is not a fit candidate for a high school diploma. That diploma should be an emblem bestowed by a generous public upon one who has dedicated himself to that which is best and finest in civilization; it should mean honor and obligation to uphold for society the highest that society idealizes.

Dr. Henry Neumann wrote:

To consider moral values in education is to fix attention upon what should be the paramount aim. A schooling that imparts knowledge or develops skill or cultivates tastes or intellectual aptitudes, fails of its supreme object if it leaves its beneficiaries no better morally. In all their relationships present and future, that is, as schoolmates, as friends, as members of a family, as workers in their special vocations, as Americans, as world citizens, the greatest need of our boys and girls is character, the habitual disposition to choose those modes of behavior that most do honor to human dignity. Not simply to learn to tell the truth or to respect property rights, but to realize in ever more vital ways that the worth of life consists in the endeavor to live out in every sphere of conduct the noblest of which one is capable—this it is which gives education its highest meaning.¹

2. RELATIONS OF CHARACTER CITIZENSHIP, MORALITY

In recent days educational leaders have been emphasizing the importance of good citizenship in the schools. Good citizenship is an outcome to which everybody must give assent. The term citizenship can be used more advantageously in the schools than the term character and still more advantageously than the word morality. The words morality and character sound more academic and are apt to

¹ *Moral Values in Secondary Education*, p. 7

suggest theological controversies. From a pragmatic standpoint the term citizenship will enlist greater coöperation. In reality all the terms mean essentially the same thing and will be used quite interchangeably in this chapter.

Meaning of morality. An examination of the established usages of the term moral should convince any honest-minded individual that there can be no quibble over its real meaning. Only those who wish to justify their desires for unrighteous conduct resort to academic sophistry, or cavil at its fundamental meaning. It is so easy for callow youth who wish to escape rigorous thinking and the sterner duties of life and who wish to follow their selfish inclinations to be led into the seductive paths of sophistry. The modern trend is the easy, alluring, lazy way.

Dr. Henry Neumann says that:

We shrink from a word with some of the unlovely connotations which have gathered around that term "moral." Or else we do not examine the richer, finer meanings it may embrace. In some circles, the word is in ill repute because it betokens, and needlessly, a dismal suppression. To others, morality means merely not to lie, not to steal, to be "virtuous," to obey the conventional precepts: you can lead a "good" life if you keep within the bounds of your community's standards with respect to falsehood, unchastity, and the like. Whether then you carry such morality over into business or politics, or in any way interest yourself in a better social ethics, is quite unimportant. The educational ambition of more respectable families than we can begin to count is that their young people grow up into law-abiding, undisgraced, comfortable citizens who will play the game of life no worse than their quite like-minded neighbors. . . .

It is because these larger meanings of the ethical life are slighted that so much of our ordinary discussion of "education" and "character-building" sounds hollow. The first essential is ever new height, breadth, depth of vision.¹

¹ *Education for Moral Growth*, p. 6

In this discussion no attempt will be made to go into hair-splitting definitions of morality. Such a treatment may be useful as an academic pastime for writers of treatises on ethics but would contribute nothing of importance to the practical educational aspects of the question. By a moral act is here meant one in which the individual performing the act does it believing it to be right. An immoral act is one in which the individual believes it to be wrong. An act which is done without any consciousness of the right or wrong involved is an unmoral one. A moral act is one in which the individual desires to further the welfare of others and finds pleasure in so doing. Whenever an individual does that which he knows to be wrong, that which will injure society, including himself, he commits an immoral action. In real morality there is intentional right doing and satisfaction. A righteous act, in the long run, promotes the welfare of society, including the individual himself. The individual who performs a moral act must believe that it does no harm to anyone, either to himself or society. It is necessary to distinguish between mere momentary, personal pleasure and the ultimate welfare of society.

Professor Sharp says:

Morality, then, consists in the fact that a man's outer actions have their source in a certain spirit, a spirit which for the present it will be sufficient to designate as the spirit of loyalty to the moral ideal.¹

The fundamental point is that morality goes far deeper than the mere observance of custom, or even laws, rules, and regulations established by organizations, institutions, or commonwealths. There must be the cheerful, enthusiastic striving for the welfare of humanity. It is not the

¹ *Education for Character*, p. 41

product of a day's instruction but the growth and evolution of years, of conscious personal reflection and endeavor. It is clear that young children can not progress far in moral development while immature and unreflective. That its real beginnings should be made in early adolescence is also clear if we understand the psychology of adolescence.

Distinction between morality and legality. In general, most legal statutes that survive represent right and justice because there is a constant, though sometimes weak, effort to have moral aspirations crystallized into legal enactments. However, pupils must be taught to distinguish carefully between political laws and moral laws. To a certain degree legal laws mean the victory of might—not necessarily right. In the past the ruling class could enact into law whatever they willed. They often willed very selfish measures and the people had to abide by them because they had no voice in making the laws. Even after the franchise was given to all the people in a nation, the laws were largely determined by a few. In democratic America where nominally all share the privilege of helping to determine the laws, the majority do not utilize the privilege and responsibility but allow those with special interests to take the initiative and often manipulate elections and legislatures to suit themselves. The result is that many bad laws are enacted. If they become too bad the people become aroused and correct them. For example, it is now legally possible in many states for two or more persons to get a charter to form a corporation, sell stock in it to anyone who can be duped, give to themselves the majority of stock, vote to make themselves the officers, do, by vote, whatever they please with the money collected, and the rest of the stockholders have absolutely no recourse, provided there has been no misrepresentation in selling the stock. Such procedure is a

plain fraud and is legal; but what about its morality? One could be a black villain and still live within the legal code. To help children to see the distinction between the moral and the legal is not always easy but it is highly necessary.

I have before me a paper containing a "for sale" notice of a half interest in a battery shop. The price is, let us say, \$700. A would-be purchaser goes and views the shop. It has batteries, but he does not know that most of them are dead and that the few live ones are rented. An occasional customer enters and examines some batteries. They come by prearrangement. The partnership deal is made, legal contracts executed, and the \$700 paid. After a few days the new partner becomes suspicious and complains. He consults a lawyer and finds the contract absolutely flawless and binding. There is no recourse. The deal was a fair one (legally). The seller then says "Now, look here, you are sick of your bargain. I'll be generous and buy back your half interest for, say \$100." The purchaser is outraged, but decides to take the \$100 rather than nothing. In the next few days another partner buys a half interest in the same shop. It is resold many times in a month. The seller often gathers in \$4000 a month. The transactions are all legal! What about the morality? These are but two of many such transactions which have come to my notice recently. Neither is a hypothetical case.

Custom and morality. There are many people who contend that morality is a matter of custom and that morality changes from time to time because of changed conditions. There is precedent, of course, for following this interpretation. The German word *Sitte* means custom and *Sittlich* means *moral*. Even the German common people are in the habit of saying that what is customary, what others do, is moral or right. But is it true that what is customary,

whatever the populace does or believes in, is right? Have there not been manifold things which prevailed in practice and in belief which were entirely against the welfare of society? Take human slavery as an illustration. Doubtless many individuals believed it to be right and were acting morally, so far as they were concerned, but not for the ultimate good of society. There was a time when such large numbers believed in excessive drinking of intoxicating liquors that a given narrow-visioned individual might very easily delude himself into believing that it was right. It has come to be apparently considered by the multitudes that smoking is entirely right and moral for men. Is it not probable that the time is near at hand when it will be similarly considered for women? Recently I noticed a rather beautiful woman selling tickets at the principal theatre in a certain city of about thirty thousand population. While selling the tickets she puffed at a limp cigarette in a perfectly nonchalant manner. Evidently she considered it entirely proper and doubtless received her sanction from the ever ready "everybody's doing it." A few years ago this would have been tabooed.

It will be argued in this chapter that we must look much deeper for our sanctions to behavior. We must try to be certain that each action harms no one; that on the contrary it promotes the ultimate welfare of self and society. It must be performed with the intention of being right. It must also be done cheerfully. Only when so done can any act be truly moral.

If custom is one's criterion of morality it is very easy to find sanction for whatever one wishes to do. It is especially true that the child and the adolescent include in "everybody" only a very limited group. The pattern for the desired action has doubtless been derived from that very

limited group. The adolescent world includes only that crowd. They do not know, nor wish to know of other groups, of other lands, of other times, of the future as well as of the immediate present. Their own selfish pleasure, not the ultimate welfare of society, is the one consideration. In their immaturity and egoism their set looms large. It is the world to them. It is the present and the future.

A higher sanction—conscience. Instead of teaching the youth to follow custom blindly in the belief that the crowd is always right, they must be taught to apply much more critical measures. They must be taught to weigh and ponder and to decide for themselves what they believe to be right or wrong. They should be taught to follow their consciences, instead of the beckonings of the crowd. The crowd may be right but one should not decide to do as the crowd does simply because the crowd does it. The decision should be determined because of the individual's own belief that the course of action is right.

What is conscience? Coffin writes:

Civilized men pretty generally recognize the existence within consciousness of some "faculty or inner authority which is supposed to provide them with knowledge of good and evil, and which at the same time prompts to the performance of right acts. . . . A deeper psychological analysis shows conscience to be exceedingly complex. It is not to be regarded as any single faculty isolated from other functions of mind; but is rather to be considered as the whole of consciousness functioning in a moral situation. Regarded in this way, the rationalist is right in so far as conscience presupposes the ability to judge. . . . Besides the thought processes, conscience presents certain affective aspects; there are feelings of pleasantness and satisfaction toward the object of choice, or, it may be feelings of remorse and regret. Finally, on the volitional side, conscience cannot be regarded as having fully functioned until the choice and decision have resulted in action. In a word, then, conscience is the term we apply to

the whole of consciousness in its intellectual, emotional, and volitional aspects, as it evaluates moral problems.

In conclusion, it would not be inconsistent to invest conscience with divine sanction, to see in it one of God's methods of revealing His will to man. Indeed it has been regarded by some thinkers as the direct voice of God—an inner divine light making plain the way of righteousness. While modern psychology would refuse to accept this simple statement of it, nevertheless if it "is not the voice of God in the mind of man, it at least speaks for those powers in human nature which raise him above the animals and link him to what is highest in reality—his comprehensive intelligence, his free will. . . . We may therefore consistently hold that in the evolution of the race towards biological, psychical, and social, as well as moral perfection, conscience is one of the greatest of Divine Laws."¹

It is not here maintained that conscience is an innate gift which always unerringly decides moral questions. Undoubtedly all human beings possess certain instinctive moral tendencies. But all instincts are modified and developed by experience. One's conscience at any given moment is the resultant of his innate tendencies plus all his individual experiences. The problem of moral education is to stimulate the development of conscience. This comes about through knowledge of right and wrong, the stimulation of desire to do right, and habituation in right behavior. That is, education should develop an enlightened conscience, a quickened conscience, and a conscience habituated in moral judgment.

In the development of individual conscience the child follows much the same process as primitive peoples. There morality means the complete observance of customs and taboos. Likewise the child observes the customs around him at first unreflectively and later comes to believe that those customs are right and proper. As Coffin says:

¹ *The Socialized Conscience*, pp. 23-29

The primitive man does not have what we are pleased to call a personal conscience,—that which constitutes for us the very core and essence of morality. The primitive man's action is conditioned from *without*, not from within, hence not only has he no need for conscience, but any inner force which might lead him to criticize custom and to act in any other than the customary way would itself be condemned in primitive society as wrong.¹

The child simply follows custom and thinks little upon the right or wrong involved. The adolescent likewise follows custom but his unfolding nature prompts him to reflect upon the propriety of various actions. His sanctions are usually found in the customs around him, especially of some group which he considers as select and exclusive. Once he consciously accepts their standards, he follows them with utter slavishness.

To arrive at an independent moral judgment that is counter to popular opinion and applause often takes great courage. It is far easier to go with the crowd and receive its plaudits than to oppose and oftentimes receive its jeers and jibes.

To assume that the individual's conscience is to be the criterion determining conduct is not to exclude the importance of custom and of public opinion. Conscience is not static, not an initial endowment which never changes, but rather is a product of growth and development as a result of knowledge. Therefore, it is important to produce the enlightened conscience. If a person discovers that his conscience sanctions conduct that seems out of harmony with current opinion he should study the question anew giving thorough consideration to public opinion to see if his own judgment may not be biased or narrow. If after re-examination of all the facts, his conscience approves a certain

¹ Op. cit., p. 9

course, then he is acting morally in following those dictates and immorally in acting counter to them.

In teaching adolescents to act morally it is highly important to teach them to follow their judgment of what they regard as right. Any other course makes them merely passive agents, swerved by every popular wave of caprice and opinion. They must learn to be willing to stand alone. Of course, all legal statutes should be obeyed.

3 DIFFERENCES BETWEEN THE MORAL EDUCATION OF CHILDREN AND OF ADOLESCENTS

Recognition of different stages of development. In no other phase of development is there so great a difference between the child and the adult as in moral development. In physical features and in intellectual and emotional life there is a similarity between the characteristics of the child and those of the adult. Practically every structure, every organ and a large part of the functions of the body of the adult are found in miniature in the child. A comparison of intellectual processes shows that every power like sense perception, memory, imagination, judgment, are observable in the child as well as in the adult. To be sure, they are of different proportions, but strikingly similar. The affective life reveals that the child as well as the adult has feelings and emotions including, fear, joy, courage, affection, pride, rivalry, and so on. But an analysis of the moral life of the individual at various stages of existence shows striking differences. In fact, the moral powers of the child are so embryonic as to be almost undiscernible. To be sure, the child instinctively possesses a stock of potential reactions which rather easily insures a type of conduct that makes for his welfare. Through instinct and imitation the child easily

builds up a stock of moral habits, but does so unreflectively. So far as the child himself is concerned, there is no purposive, reflective, morality. In fact, a child that dwells to any extent upon the right or wrong of conduct should be considered abnormal.

To succeed in moral education no factor is more important to recognize than the adaptation of the material and method to the stage of development of the child. While this principle underlies all education it is particularly important in moral education. In childhood when the mental life is narrow and the judgment faulty, when thinking is concrete and not in abstract principles, when behavior is largely determined by reflex imitation, moral education should seek to select the environment so as to constantly surround the child with desirable examples which he will copy. Continued favorable opportunity will result in the development of a fund of right habits of behavior. The formation of ideal habits is the key to moral education in childhood. Time and effort spent in discussing abstract principles of morality are largely wasted.

Different methods for different stages. Children should be surrounded by environment which is worthy of being copied. They should be trained to habits of implicit obedience of parents, teachers, and those in rightful authority. Obedience should follow not because of any dictator's power over them, but because through obedience the children learn to know that they will be dealt with kindly and with justice. Obedience should result from love not from fear. Those in authority should consider their relation as a sacred obligation and a duty to inculcate only right and worthy behavior. From those parents or teachers who do not thus conceive their obligation, the privilege of the relationship should be taken away.

With the onset of adolescence different methods should be employed. The expanding mind of the adolescent and the manifold experiences which he observes and in which he participates produce a questioning and oftentimes a doubt regarding old teachings and old sanctions. So alluring do the experiences of companions and chums sometimes become that complete rejection of home ideals and habits results. Companions often do vast mischief by subtle taunts of being old-fashioned and servile. Blind imitation and subservience to the immature ideals of giddy companions is the greatest retarding factor in moral education. The average youth, boys or girls, cannot withstand the taunts and jeers which make them feel that they are tied to mother's apron strings, that they are out of class, that they are not in good form, that they are yellow, that they are pikers. What girl could endure being called "Prudence Prim"?

While no attempt should be made in childhood to teach abstract principles of moral education, the adolescent period is auspicious and the results may be rich and lasting. Whether the course should be separate from other subjects of instruction will be considered later. By some means or other, a fund of guiding or regulative principles should be so real that the youth may have a balance wheel to steady him as emergencies may arise. These regulative principles need not be expressed in categorical formulae but should be so real and so thoroughly integrated into habits of thinking and living that for any occasion they will determine action which may be rationally justified. By no means should these regulatives take the form of prohibitions. Constant desirable behavior which results easily, without effort, without temptation to do otherwise, is the best index of firmly seated regulative principles. It is daily, moral behavior and not memorized moral categories that are

sought. Without application to daily life and living, moral principles mean little; in fact, they are not really learned until lived; not until they are lived without coercion, and with satisfaction.

De Garmo has expressed very clearly in the following quotations the different procedures necessary in the effective moral education of children and of adolescents:

Childhood is the period for the authoritative inculcation of habits in home and school. These of course relate to industry, politeness, promptness, regularity, obedience, truthfulness, self-control, and the like. The exercise of this authority will be effective, whether the situations that prompt it are real or artificial. Firmly enforced parental authority is reality enough for the child. It is somewhat different, however, with adolescents. Capricious authority, or that not seemingly based upon real situations, is resented as artificial and arbitrary; and to be successful it must be backed by force not easily resisted. Unless the reason for a given routine of action is apparent, the youth usually asks for it.

From the foregoing it is evident that with adolescents new habits of important ethical import must be founded on insight, supported by real needs, and reënforced by all the sanctions, both internal and external, that can be brought to bear upon them. They should be launched under incentives as powerful as the exigencies of the case will warrant. These incentives will range all the way from bare prudence for physical and mental well-being, up to reverence for the highest ideals of truth and goodness. They will necessarily be accompanied by pictured rewards and penalties, whether of a material or a spiritual nature, which will of course awaken the emotional life.¹

As a matter of fact the moral exercise of the will is not found in the external assumption of any posture, and the formation of moral habits cannot be identified with the ability to show up results at the demand of another. . . . The question of moral training has not been touched until we know what the child has been internally occupied with, what the predominating direction of his attention, his feelings, his disposition has been while engaged

¹ De Garmo, *Principles of Secondary Education: Ethical Training*, pp. 59-63

upon the task. If the task has appealed to him merely as a task, it is as certain psychologically, as the law of action and reaction is physically that the child is simply engaged in acquiring a habit of divided attention.¹

4. DIRECT AND INDIRECT MORAL EDUCATION

Shall we teach morals directly? The majority of persons instantly answer in the negative. Quite frequently I have asked classes of university students beginning the study, whether moral education should be direct or indirect. With few exceptions the students promptly say indirect. The answer is the popular one and is even given by a good many writers on ethical education. It is doubtless due largely to the misconception of the meaning of the terms direct and indirect. The popular objection to direct moral instruction is due to a large extent to the reaction against the puritanic custom of moralizing very directly and upon every possible occasion and because of making these preachments very personal matters. Very probably that sort of moral teaching is not very efficacious in a democratic civilization and often does more harm than good. This is especially true in the recent days of freedom bordering upon moral anarchy. But should all direct instruction in morals be abandoned? If questions of right and wrong in human conduct can never be discussed with pupils how can we expect to develop enlightened consciences? Should there be no discussion of great civic and social questions from the standpoint of right and wrong?

By direct moral instruction is here meant the definite consideration of the right and wrong involved in any given act of conduct. For example, if a boy had deliberately broken a neighbor's window by throwing stones at it, he could be called to account for it and made definitely to

¹ Dewey, *Interest as Related to Will*, p. 9

consider whether it is right to destroy other people's property. Frequently the teacher seizes such an occasion to call the attention of the whole school to the act and to bring the offender before the pupils and to censure and ridicule him before the school. That, of course, is direct and personal. Such methods generally produce results opposite to those intended and are to be condemned. However, it is the public, personal attack and not the directness that causes the resentment. If the teacher had called the pupil aside and reprimanded him privately doubtless no feeling of resentment would have been produced. If a question of destroying property had arisen in a civics class there would have been no objections to considering it and most pupils would condemn such behavior.

Direct moral instruction may be given also in connection with the teaching of subject matter whenever any question arises that involves weighing conduct from the standpoint of right and wrong. For example, in history when discussing slavery, the tariff, or war, not only should chronicles of dates, measures, and men, be learned but, of far more significance to the pupils, the underlying human motives prompting, and the weal or woe of those affected, should be considered. Was it just, was it beneficial, was it right? should be interposed at every step. In teaching literature not merely the date of the writing, the source of the plot, the metre of the verse, the number of figures of speech, but how do you like it, what do you think of Horatius, Shylock, Daniel Deronda? These are impersonal but none the less direct.

In civics take, for example, questions of ballot box stuffing, graft in public office, unjust taxation, trusts and illegal combinations. Should they not be discussed from the standpoint of the welfare of society? Of course, any ethical consideration should be based upon facts—upon intelligence.

In fact, should not all questions of civics become questions pertaining to welfare, questions of rights, duties, and obligations, of individuals and of society? Suppose, for example, the class in civics were discussing forms of city charters, or the question of granting franchises to private corporations giving them privileges to own and operate street railways, gas manufacturing, or electric lighting. Would not each of the discussions hinge upon the question of the welfare of the people affected? That is, the questions bear immediately upon the morality of the action. Should they not be discussed very directly and very freely if we are to develop independent, intelligent, moral citizens?

In the direct consideration of morality, the purpose should not be to furnish ready-made opinions to bias the pupils but to give them a chance to form independent, intelligent judgment. The purpose should not be to spread propaganda but to form steady habits of thinking about right and wrong. The objectives should not be to teach pupils *what* to think but *how* to think.

5. SHALL THERE BE DISTINCT COURSES IN MORAL EDUCATION?

Varying opinions. On this question there will doubtless be a good deal of difference of opinion. Probably the prevailing opinion will be opposed to such a plan. That will be true because at once a picture of a little thin catechism of moral instruction will be apt to be visioned. Along with that will rise the idea of a personal moral lecture, consisting largely of emphasis upon negative virtues. All of that arises, however, through a misinterpretation of the content of a course that would appeal to the adolescent.

As previously stated direct moral instruction does not necessarily mean personal instruction. Moral instruction

may be impersonal but nevertheless deal directly with questions of right and wrong. It may include both concrete situations and underlying principles of morality. The course need not be labeled moral education if there is a prejudice against such a course. If the bias exists, such a title would destroy a great deal of the value that such a course would have. Suppose then that it is given the well-established and acceptable term "civics." The content could be exactly identical with one labeled "moral education." Certainly, there should be some definite time when principles of conduct, both of individuals and of organized groups, should be examined critically, and when pupils should be given an opportunity to make decisions in the light of their best knowledge. To leave these for purely incidental consideration is to make a very superficial study of them, and consequently the judgments are likely to be of the purely imitative type and valueless morally.

Pupils do not oppose consideration of moral questions. The prevailing opinion that adolescent pupils generally resent or scoff at the consideration of moral questions is not supported by the facts. From many different sources there is testimony that pupils seek the girls' or boys' advisor and ask earnestly for advice and guidance on manifold questions of moral conduct. These range from the most intimate and personal to the most remote and hypothetical. Some show only limited egoistic ethical interests, but many evidence a maturity and altruistic thoughtfulness often unsuspected. Miss Jessie Gibson, for many years girls' advisor at the North Central High School, Spokane, and now dean of women at Pomona College, has written a most important book, *Being a Girl*, which grew out of her everyday experience at Spokane. That book shows clearly that girls do appreciate having counsel on moral problems.

Miss Florence Marshall, girls' advisor at Lincoln High School, Seattle, collected questions submitted to her by pupils in the high school. The following are typical. Many of them may seem of small import or trivial to adults but they were doubtless of great moment to the youngsters asking the questions. Miss Marshall discussed the questions informally in classes. Her report indicated that the pupils were very serious in their attitude toward all such questions.

QUESTIONS ASKED BY HIGH SCHOOL PUPILS

1. Is it right to go to school and not study?
2. Is it right to spend school book money for other things?
3. Is it right to keep animals in captivity?
4. Is it right to cut off their tails?
5. Is it wrong to go to the movie on Sunday night?
6. Is it wrong to work on Sunday?
7. Is it right to take advantage of someone's ignorance?
8. Is it wrong to disobey your parents in something which is mere prejudice?
9. Is it wrong to go to the public dances?
10. Is it wrong to drink?
11. Is it wrong to play cards?
12. Is it wrong to doubt some things in the Bible?
13. Is it right to read all kinds of literature on Sunday or should you read only literature on religion?
14. Is it as wrong to play a game of cards for a prize as for money?
15. Is it wrong to frighten children?
16. Should children be taught to believe in fairies and Santa Claus?

Sharp's experience in directing specific courses in moral instruction. Professor Sharp, of the University of Wisconsin, tested experimentally for a number of years the possibilities by giving a definite course for one year in the Madison, Wisconsin, High School, and for four years in the Wisconsin University High School. He had several

high school principals in other schools also give the course under his general direction. The course was called "The Conduct of Life." Dr. Sharp says that the methods suggested in his book "all have been actually tried in the fires of experience."¹

Many argue that no specific course in morals, conduct, or character should be given but that all instruction should be given incidentally in connection with such subjects as history and literature. Professor Sharp believes that:

History, literature and biography, however valuable they may be as contributions to the knowledge of the moral life, do not afford an adequate basis for the attainment of the ends of moral instruction. The principal reasons for this statement are that, in the first place, they do not provide proper or sufficient material for the training of the power to distinguish between right and wrong, and for the study of how to deal with temptations; in the second place they do not cover, even in barest outline, the field of the second of the great problems of moral instruction. They not merely *do not*, they *can not*, for the material requisite for this purpose does not exist. The addition of civics to the list does not really meet the situation because it deals with a somewhat highly specialized set of duties, and duties of such a nature that the most numerous and the most important represent obligations not in the present but in the future of the child, with the inevitable unreality which that situation carries with it. . . .

The statements just made apply equally well as against the claims of the so-called incidental method of moral instruction—the occasional discussion of moral issues as they happen to be raised by the incidents of school life. Such discussion is, of course, proper enough in its place.²

Sharp planned a course for two recitations per week during the third and fourth years of the high school. It aimed to give a larger view of personal responsibilities, a more enlightened view of personal habits; a more ideal conception of the home; a better meaning of chums and friend-

¹ Sharp, Frank Chapman, *Education for Character*, Preface

² Loc. cit., pp. 257, 258

ships; one's privileges, duties and obligations in relation to the school; one's place in society, including benefits from and obligations to society, and opportunities for service. These questions were considered first through informal free discussion and followed by reading concrete and interesting books, largely narrative and biographical in character. Sharp says the main objectives were to enlighten, stimulate moral thoughtfulness, to gradually set up standards, and above all to develop desires to do right. The object was not to settle questions or to give their final answers.

Neumann's analysis of the problem. Dr. Henry Neumann, of the New York Ethical Culture School, has analyzed the problem of distinct courses in moral training in a very discerning and helpful way. He believes in offering such courses provided they can be given properly. He says:

In the hands of enthusiastic, well-trained teachers, courses of this kind may do much to expand and deepen the moral insight of young people, to promote a habit of moral thoughtfulness, and to elevate their purposes. By providing place for this subject the school emphasizes the fact that it considers moral thinking sufficiently important to receive specific attention. Furthermore, by the allotment of a definite time the subject is insured against the neglect likely to attend a merely incidental treatment. There is also allowed a more complete consideration of duties than is possible when moral problems are discussed only as some special incident, such as a breach of discipline, a new school ordinance, or a celebration, brings the opportunity. For instance, many of the finer duties of home life would never be considered if the teacher were obliged to wait until some special occasion arises.

Moreover, a distinct course offers greater chance than incidental instruction to develop the broad, far-reaching principles that growth in character requires. Particularly is this true in a democracy pledged to progress. If conduct is to be other than conventional morality, or slavish obedience to whatever happens to be the prevailing code, surely there must be careful thinking upon underlying principles. Quiet, earnest reflection upon these principles at regular times under the guidance of the right kind of

teacher is therefore a need of which the young people themselves may not be particularly conscious, but which, in these days of extremely hurried living, is important enough to deserve every encouragement.¹

The Iowa plan: character education methods. The most exhaustive and far-reaching plan for character education thus far formulated is the Iowa Plan. This is the plan for which the Committee received the \$20,000 award in the nation-wide competition.² Professor Starbuck was chairman of the committee of nine who won the award in competition with similar committees from twenty-six states. The other states had committees but did not submit plans.

In the plan are stated thirteen Foundation Principles, viz.: I. "Have a Goal"; which should be purposeful and not haphazard. II. "Measure the Progress and the Product." This they believe is as possible as measuring the "points in stock judging or the skills in arithmetic, writing, and music. This outline presents a fairly successful scale for character-rating." III. "The End is Personal—Cultivate *persons who* live gracefully and helpfully, *not virtues that seem* desirable." IV. "The End is Social—Organize the school as a whole and in every part as a *democratic community of persons*." V. "The End is Practical.—Not virtue for virtue's sake but rightness and righteousness for life's sake—the growing, self-realizing life of individuals and societies." VI. "The Sure Foundations of Character Lie in Conduct.—*Practice* the good life rather than entertain thoughts *about* it." VII. "Vitalize Conduct Through the Sympathies.—Build up bodies of specific likes and dislikes and hatreds of ugliness in conduct and sets of tastes and prejudices in favor of that which is clean, kindly, cour-

¹ Newmann, Henry. "Moral Values in Secondary Education." U. S. Bureau of Education, *Bulletin*, 1917, No. 51, p. 7

² *Character Education Methods: The Iowa Plan*, published by the Character Education Institution, Washington, D. C., 1922

ageous, noble." VIII. "Furnish the Mind Richly with Imagery and Symbols of Right Living.—See that the mind of every child is attracted to the best pieces of art; is entangled in the plot of wholesome novels, plays and movies; is resonant with proverbs, poetry, precepts and wise sayings; is vibrant with the rhythm and melody of the best music; is inspired with admiration of great personalities and is self-hypnotized by the thought of noble deeds." IX. "Develop Progressive Skill in Moral Thoughtfulness.—First, conduct; then the sympathies; next the imagination; and finally, reasoned behavior. Cultivate the power, on occasion, to face real moral situations thoughtfully, to criticize conduct, to form clear and accurate judgments of right behavior." X. "Translate Duty into Beauty.—The sign of mastery is joy in the performance." XI. "Familiarize Children with the Best of the Racial Traditions.—They need to learn its wisdom, respect its great personalities and revere its ideals." XII. "Awaken Loyalty to a Cause.—Character consists in thoughtful selection of a *cause* together with personal loyalty to that cause." XIII. "Stimulate the Spirit of Reverence.—Respect for laws of nature and of the state are elements in the truest reverence.—Love of noble personalities is not unlike devotion to the Spirit of Life."

The foregoing goals are to be achieved through the regular curriculum, especially through literature and biography, through personal talks, through the socialized school, and through student participation in the life of the school, and in various social and civic projects.

Professor Starbuck and a staff are now at work upon the evaluation of literature suitable for various stages of development and designed to contribute to the various goals.

The Buffalo and Utah plans. Most cities and local districts have provision for moral and civic education as a part

of the established curriculum. Some cities and some states have quite elaborate outlines of the work. In a good many systems, citizenship is one item on the pupils' report card. This used to be under the title "deportment." So far as known, no school actually includes the citizenship mark in the average required for graduation. Among the best stated city and state plans are the ones from Buffalo and the State of Utah.¹ In each of these plans the objectives are very clearly stated, although details of time and procedure are not given. Each course considers the work from the standpoint of personal habits, relations between individuals, relations of the individual to society indicating rights, privileges, and especially stressing duties and obligations. Use is to be made of personal situations, school organization, opportunities for participation in civic enterprises and patriotic exercises. In addition history, civics, literature, biography are to be employed to make direct contributions. Every subject and topic capable of contributing is to be drafted into service. The extracurricular activities are also to be organized so as to afford helpful and natural opportunities for actual participation in activities especially arranged for social coöperation and mutual helpfulness. The Buffalo plan especially emphasizes the value of beautiful gems of inspiring literature.

6. TYPICAL STATE LAWS RELATING TO TEACHING MORALITY, CHARACTER, AND CITIZENSHIP

Measurement in character education. In this book no attempt is made to describe or evaluate any of the recent studies in the measurement of character. The studies of Starbuck, Hartshorne, and May furnish a large amount of material in that newly developing phase of scientific

¹Character Education Supplement to the Utah Course of Study for Elementary and High Schools, 1925

procedure in character education. A considerable literature has been produced also in relation to the measurement of personality traits.

Massachusetts Order of 1647, and the Federal Ordinance of 1787. All states in the Union have enacted legal provisions requiring the teaching of morality and the training in citizenship. Some of the states have very elaborate laws, others very brief. In many states the general statutes are brief but give state and local boards of education mandatory powers to make detailed regulations for complying with the general statutes.

Every commonwealth has to a certain degree taken its cue from the earliest public school law in America, the Order of the General Court of Massachusetts in 1647, in which the moral and religious purpose of public education was dominant. The act read as follows:

It being one chiefe piect of y^t ould deluder, Satan, to keepe men from the knowledge of y^e Scriptures, as in form^r times by keeping y^m in an unknowne tongue, so in these latt^r times by pswading from y^e use of tongues, y^t so at least y^e true sence & meaning of y^e originall might be clouded by false glosses of saint seeming deceivers, y^t learning may not be buried in y^e grave of o^r fath^{rs} in y^e church & comonwealth, the Lord assisting o^r endeavo^{rs}.

The famous Ordinance of 1787, in paving the way for subsequent grants to all new states entering the Union to receive from the Federal Government from one to four sections of land for public schools, expressly stated that: religion, morality, and knowledge being necessary to good government and the happiness of mankind, schools and the means of education shall forever be encouraged in the States to be carved from this Territory.

Legal provisions in the State of Washington. As typical of the legal enactments making mandatory the teaching of

morality, good character, and citizenship, those from the State of Washington are selected. In all common schools in the State of Washington, physiology and hygiene must be taught

with special reference to the effects of stimulants and narcotics on the human system.

Districts that "have failed to make provisions for the teaching of hygiene or have failed to require it to be taught, with special reference to the effects of alcoholic drinks, stimulants and narcotics upon the human system" shall not receive public money for the support of their schools.

Attention must be given during the entire course to the cultivation of manners, and the fundamental principles of honesty, honor, industry, and economy, to the laws of health, physical exercise, ventilation and temperature of the school room, and not less than ten minutes each week must be devoted to the systematic teaching of kindness to not only our domestic animals, but to all living creatures.

County superintendents who do not enforce these provisions shall be liable to punishment. Teachers' certificates may be revoked for "violation of written contract, intemperance, crime against the law of the state, or any unprofessional conduct."

The lawmakers in Washington have sought to guard children from the influence of undesirable surroundings and have enacted very specific legislative provisions. Among them are the following:

No person shall admit minors in any concert saloon or any place in which intoxicating liquors are sold. Minors are not permitted in any dance house, public pool or billiard hall or any place of entertainment injurious to health or morals. No person may employ minors in delivering letters, telegrams, or packages to any known house of prostitution or assignation.

The use of tobacco by teachers in any place is discouraged. Its use by teachers or pupils is prohibited on the school grounds. Regularity, punctuality, obedience, diligence, and respectfulness are required of pupils. Habitual truancy,

vulgarity, obscenity, theft, or other immorality are considered cause for expulsion. Persons who allow minors to frequent pool halls, or sell them tobacco or liquor shall be guilty of a misdemeanor.

So important has our Commonwealth deemed good citizenship that in addition to the general provisions for teaching of history and civics in all public schools, special sections emphasize and designate the definite objectives to be attained in these subjects.

The study of American history and government are "declared to be indispensable to good citizenship and an accurate understanding of our institutions and a proper appreciation of national ideals." Therefore the study of American history and government are required in all public schools. Every public school is required to have a United States flag which must be displayed during school hours upon or near each school building. Flag drills and the pledge of allegiance to the government are required at least once each week. The pledge given while saluting the flag is as follows: "I pledge allegiance to my flag and to the republic for which it stands, one nation, indivisible, with liberty and justice for all."

School boards are required by law "to exclude from school libraries all books, tracts, papers, and other publications of an immoral or pernicious tendency."

Severe penalties are provided for boards, superintendents and others who fail in the enforcement of the legal enactments designed to promote morality and good citizenship.

7. CHARACTER EDUCATION THROUGH THE CURRICULUM

Criteria of moral values in subject matter. Much has been written and said concerning the relation of the curriculum to moral education. Unfortunately much has been

stated that does not represent a clear analysis of the meaning of moral education. Many have assumed that every subject pursued diligently and successfully, as ordinarily evaluated, yields moral values. However, as most subjects are taught, they deal almost, if not wholly, with intellectual facts. If one studies arithmetic, for example, ever so assiduously and successfully, there is no certainty that he will, therefore, be more honest. Generally mathematicians are honest, no doubt, but so are farmers and wood cutters. There is nothing inherent in the study of mathematics or wood cutting that makes one honest or dishonest. There have been honest mathematicians and wood cutters and also dishonest ones, but they were not honest or dishonest because of being mathematicians or wood cutters. The usual argument is about as follows: mathematics (or grammar or foreign language study) requires one to be diligent, to be persistent, to think hard, to reason correctly, to arrive at exact results. Therefore, it develops moral fiber. The manual arts enthusiast used to say that a boy who was required to saw a board along a straight line, to make a square cut, would, therefore, learn to be straight and square in all relations in life. One needs but to recall the puncture of the old fallacies about transfer of training to see the incorrectness of much that has been said regarding moral training.

Any subject may be presented purely as intellectual facts—and most of them are so presented. In order to yield moral values they must be considered from the standpoint of human values and human welfare, that is, from the standpoint of right and wrong conduct. Some subjects like literature, history, and civics, are rich in such possibilities because their content deals with standards of conduct and problems of human welfare. Other subjects like foreign

languages, mathematics, bookkeeping, and penmanship, can contribute little because they deal with intellectual facts only.

De Garmo wrote:

Whether knowledge shall have ethical import or not, depends upon the attitude, capacity, and insight of the knower. It becomes a moral instrument when consciously used for moral ends; but when these are absent because unseen or disregarded, then knowledge may be purely intellectual or aesthetic, or may even become the instrument of evil. In itself considered, knowledge, even of the most sacred things, may be wholly non-moral. When it is detached from the purposes and activities of life, it is, as already remarked, largely devoid of ethical quality. The humanities have often been praised as of high, and science depreciated as of low, moral value. This is evidently an error of judgment, for, though they have different moral functions when properly used, neither has any moral value at all when not so used. When it is advocated that the Bible should be read in school for its literary value, the end aimed at is aesthetic, not moral. It may be that those who advocate such a policy hope that the moral functions of the Bible will be surreptitiously performed, even when it is introduced for aesthetic ends; but upon the face of the proposition nothing but the aesthetic aspect of the Scriptures is to be considered. It is small wonder that those who reverence the Bible as the chief means of moral guidance for mankind should question the wisdom of putting the student into a merely aesthetic or even a coldly intellectual attitude toward it. If, therefore, even the Scriptures themselves may become non-moral through the mental attitude of the reader, how much more is this true of secular knowledge! It is not necessarily, but it may *become* moral. Neither feelings nor knowledge as such are ends of intellect, for the intellect, as Ward shows, always uses the indirect method, since it employs knowledge for the attainment of ethical ends. Both emotion and science are means for the attainment of the moral purposes of life.¹

The two foregoing principles should be kept firmly in mind, (1) that only those subjects and topics which deal

¹ De Garmo, *Principles of Secondary Education: Ethical Training*, p. 114

with moral questions can contribute directly to moral instruction, and (2) that transfer does not take place unless there is similarity of elements. With those before us, an analysis will be made of several subjects of instruction to ascertain what contribution they may make to character education. It will be seen at once that the subjects of literature, history, and civics have a moral content and, if properly taught, should yield rich moral values. Other subjects like mathematics and the pure sciences do not deal specifically with moral problems and are, therefore, less directly applicable in moral education.

Moral instruction through mathematics. It has been very generally assumed that the study of mathematics promotes moral thinking. Because the pupil works hard it is believed that he improves morally. Certainly the habit of hard work is commendable. But if the work habit has been engendered it is not because of the mathematics. There is nothing inherent in the subject itself which produces the result. The same result might have ensued through cultivating corn, digging post-holes, or studying Greek. Anything that entails hard, interesting work helps to develop the work habit. Even the work habit, as such, has little or no moral significance. It depends upon the objective for which the work is done. A burglar may work hard, a murderer may labor long in planning his crime, many misers labor slavishly an entire lifetime, but all these labor for anti-social purposes and are enemies of society instead of its benefactors. It is also argued that in mathematics one must search for the correct answer to a problem. This quest for truth is held to be moral. It is fallacious, however, to assume that the correct answer to any problem has necessarily to do with right and justice or human welfare. The bank robber studies to find out what explosive

will demolish the safe and enable him to get its contents. He studies until he gets the correct answer. Is it right? Is it moral?

To me mathematics is a highly attractive and alluring study. For the development of physics, chemistry, astronomy, and all sciences requiring measurements, it is indispensable. But *per se* it has no *moral* content. Were it true that a study of mathematics promotes morality, then we should expect that all mathematicians would be exemplars of morality. To be sure, most mathematicians are good moral citizens, but so are most farmers. Also some mathematicians have been rascals. So have some farmers. But being a mathematician or a farmer is not the cause of either outcome. Mathematics has many rules, but nowhere in the subject do I glimpse any hint of the "Golden Rule," and that is central in all morality.

Moral values through a study of sciences. It is often assumed that the study of the sciences has great moral values. Because the pupil is led to understand important scientific truths and because he may be required to toil in the search for truth, it is assumed that he is educated in morality. A scientific interpretation of morality, however, shows clearly that there is not of necessity any moral consideration connected with the study of science. One may study the sciences from a purely intellectual point of view, simply as facts and principles without reference to the right or wrong of human conduct, or without reference to human welfare. One may even study science with a purely anti-social motive. If one should study chemistry, for example, solely for the purpose of using it as a destructive agent against society it would be not only not moral but positively immoral. The anarchist who studies how to invent bombs to destroy property and lives is certainly using

science for an immoral purpose. A man who studies mathematics and accounting to enable him to falsify the books and wreck a bank is also employing science to further immorality.

That science may be studied so as to develop moral purpose and ideals should be readily granted. The foregoing discussion was given simply to expose the superficial and fallacious reasoning so often observed. Whether the study of science shall yield moral values depends entirely upon the point of view from which it is studied and the impulses to righteous conduct which it assists in developing. To merely know or to have a burning desire to fathom scientific principles does not necessarily carry with them a moral attitude. The meanest man I have ever known, one who would unhesitatingly do more to injure others and less to help others, was a scientist of very good repute. He undoubtedly knew his subject, and understood it in a scientific way. He was also a competent and diligent investigator. But notwithstanding these qualities and attitudes, he was apparently devoid of the milk of human kindness and the desire to benefit humanity. One of his greatest outstanding interests was the using of a knowledge of his science in the destruction of humanity. Another acquaintance studied chemistry only to become a counterfeiter and is now languishing in a Federal penitentiary.

The content of pure science, as such, does not deal with moral questions. It is concerned with facts regarding the various great realms of knowledge. All of the sciences have been of great significance in the development of the world. They are, or may be, of intense interest to the student; but if simply taught as matters of fact, even though they deal with truth, they are purely matters of intellectual discipline. It is only when science is presented so as to show how it has

been used and may be used to alleviate the sufferings of man, lighten the drudgery, and promote his happiness and well being, that science may contribute to ethical understanding. There is no question of human emotions, aspirations, prejudices, and hatreds, to be weighed and judgment passed thereon.

The applications of science to the affairs of mankind may, however, be utilized to arouse interest in the ills and welfare of humanity and in this way enrich the moral life. Many dramatic incidents in the use of science for the welfare of humanity may easily be collected. Most of the developments in medicine from the discovery of anæsthetics to deaden pain in surgical operations to the self-sacrificing experiments of Wood and Lazear in discovering that the deadly germs of malaria and yellow fever are inoculated by the mosquito, have been consciously made with the hope of alleviating some of the ills of mankind. The work of Colonel Gorgas in draining the swamps to make possible the construction of the Panama Canal was a deed which makes us all his debtors. Cities, states, our federal government, public health associations, are all rendering meritorious service in improving sanitary conditions that needless loss of life may be reduced and human happiness increased. Due to better disposal of garbage, more efficient sewerage, pure food and drug acts, the inspection of markets, sanitary regulations relating to milk, millions of infants are now saved and human life in general is many years prolonged.

In considering the sciences as media for ethical instruction we must guard against the assumption that all scientific discoveries and achievements have contributed to better moral conditions. Most scientific discoveries have been made as the result of purely intellectual promptings. They

have also been used by mankind for the satisfaction of needs and wants, largely selfish. Inventions are generally developed, put upon the market and distributed "because they pay," not because they promote the welfare of mankind. Gunpowder, pistols, narcotics, and automobiles, are made to sell. Some of them bring comfort, others distress and degradation. We must make a distinction also between material comfort and morality. The electric light, the telephone, the automobile, and abundance of food, have brought ease and comfort, but is the world necessarily better than before their advent? Those named may promote better living but may also be used in abetting wickedness and crime.

Of course, to achieve the highest ethical efficiency through science, accurate and exhaustive knowledge of science is necessary, but the attitude toward humanity which one has in using or pursuing science is the chief consideration in determining whether one is thinking or acting morally. De Garmo believes that:

The desire to know the reason of things, to find out causes and to trace effects, the unwillingness to accept a fact without a demand for its explanation, has as much ethical significance as it has intellectual. Even if it be asserted that the desire to understand has no effect upon ethical disposition, it most certainly has much upon ethical efficiency. He who understands the causes of misery is better prepared to relieve and prevent it than he who perceives the pain, but knows not whence it comes. He who can intelligently use his scientific knowledge to promote the good of others is ethically more capable than he who does not comprehend. Good-will not re-enforced with insight, and capacity effects but little.¹

It is not only through extensive knowledge and mastery of the sciences that moral education may be derived. Even a superficial acquisition, secured in the right spirit and with

¹ Op. cit., p. 136

the right humanitarian applications constantly in mind, may easily arouse ideals of altruism in the learner. If chemistry is studied not only from the standpoint of pure science but with its beneficial applications constantly in mind it may serve to stimulate altruistic instincts. The chemistry of everyday life as applied to cooking, cleaning, dyeing, food production, lighting, batteries, gas engines, medicines, public health, and sanitation, are far more interesting than abstract formulae, and help to develop interest and concern for the welfare of society.

De Garmo in his analysis of the ethical values of the school studies writes:

Of the natural sciences in general, as contrasted with the humanities, it may be said that their ethical value lies not in the moral content of their underlying conceptions, but in the functions they perform in promoting human welfare. Physical laws as such are devoid of moral content, except as all systems of truth are moral, but functionally considered they may become the greatest of ethical instruments. Yet the sciences differ among themselves in ethical function, just as they differ in their entirety from the humanities. Biology, dealing with life, has a different moral import from physics, which deals with mechanical law. Hygiene, for example, concerns the physical health of man, as the application of mechanical law to machinery affects his economic welfare.¹

Dr. Henry Neumann says:

Two cautions against the misleading uses of the natural sciences for ethical instruction must be sounded. First, no capable teacher will sentimentalize over the seeming analogies between the life of nature and the duties of man. To draw a "lesson" on the value of right social relations, as one teacher did, from the symbiosis exhibited by lichens, the alga contributing food and the fungus protection, is to forget that ethical relations are matters of right adjustment of human wills. There is nothing moral about the involuntary adjustments in the natural world, and, besides, the

¹ Op. cit., p. 118

natural world is only too full of examples of predatory struggle which we do not wish men and women to imitate. Second, the value of thrift and patience in the cultivation of school gardens, of strict accuracy in reporting experiments, etc., are only instrumental. Patience can be employed by men of science to manufacture poison bombs as well as medicines. Everything depends upon the ultimate aim.¹

In discussing the ethical values of science teaching, Dr. Neumann points out the importance of training in habits of accuracy and in the spirit of truth, but immediately comments:

How far this training will carry over into right attitudes toward people whose desires clash with our own is by no means certain. It is worlds easier to be dispassionate and accurate in statements about chemicals, flowers, insects, wave lengths, than about persons who oppose our favorite beliefs in religion, politics, economics. Men of science in the various countries at war were not conspicuous for the moderation and accuracy of their utterances about enemy countries.²

While the pure sciences do not have an ethical content and do not deal directly with moral problems through their study many problems of human welfare may be approached and moral attitudes stimulated. In the study of chemistry and physiology, for example, pupils may be led to study the milk supply of the town to see if it is produced under sanitary conditions. They may consider the relation of a pure milk supply and disease. It may be shown that oftentimes digestive diseases, especially of infants, and tuberculosis can be traced to impure milk. A concrete study can be carried out in almost any small community of the system of garbage and sewage disposal. Pupils should know that with the abandonment of former outdoor toilets and the installation of sanitary plumbing, that diseases like

¹ *Education for Moral Growth*, p. 280

² *Op. cit.*, p. 281

diphtheria, scarlet fever, and typhoid, have as stated before been nearly exterminated. The spread of malaria and yellow fever were traced to the mosquito. Swamps and stagnant ponds were the breeding places of the mosquito. Swamps have been drained, mosquitoes prevented from breeding, and those pestilential diseases practically eliminated. Pupils should learn how science has developed medicine to alleviate human ills. They should hear about the development of anæsthetics to deaden pain, Pasteur's discoveries in bacteriology which have reduced the hazards from lockjaw, hydrophobia, and other ills. Then, of course, the whole realm of medicine is an applied science designed to reduce human ills and not to make its practitioners rich. Science has made the canning and preservation of foods possible, and thus has promoted health and happiness. In short, there are thousands of applications of science to the promotion of human welfare. In the high school this phase should be made prominent. The applications of science could well form the starting point of most sciences, serving to develop an interest and, in turn, leading to an altruistic interest in the welfare of humanity.

Moral values through art. It is very generally assumed that all art is uplifting and morally educative. A moment's reflection will reveal the fallacy in this popular assumption. The fallacy arises from identifying the beautiful with the good. A man may have walked on beautiful carpets all his life, have lived in a palace constructed in the highest form of art, have been surrounded by beautifully tinted and decorated walls, hung with the finest of tapestries and with pictures beautiful in color and design, and yet he may be the world's greatest criminal. A picture, only beautiful in color and design, may represent an ideal back of it that is positively degrading and demoralizing. Were it true that

art and morality are direct functions of each other how did it happen that Greece at the highest pinnacle of art was most corrupt and lowest in morality?

It should be conceded very readily that art may be a very valuable *means* of developing moral ideals. It is a valuable means because the artistic is æsthetically pleasing and therefore attractive. Right there is one of the very dangers of art. The gilded saloon and the artistically decorated and appointed dens of vice are all the more seductive because they are artistic and therefore pleasing. But if the ideals represented are noble and inspiring, they are made all the more attractive because artistically arranged. To be daily in the presence of great pictures like the "Sistine Madonna," "Lincoln," "Washington," if one is also in possession of the great ideals represented by those pictures or statues, is certainly ennobling. But suppose no word is known of the great stories back of the pictures. Would there then be any special influence upon one's life? To go through an art gallery and see the paintings and statuary and not to know what the artist has intended to portray is merely an intellectual, (or sensuous) pastime and not morally effective. Art that is intended to be elevating to the masses and to the youth must depict well known and easily understood stories of high idealism. Much that is placed in public art galleries is either neutral in its moral effects or often positively debasing because of its suggestiveness to the mind not understanding the idealism intended to be portrayed. Doubtless much of art was never created to uplift but merely to appeal to the artist's senses and because it would bring pecuniary rewards through its appeal to others like-minded. Many, of course, view art and apparently enjoy it simply because it is the conventional

thing to do. A study of the frequenters of art galleries impresses one with that idea.

Art, including painting and sculpture, should be utilized to inculcate moral ideals. Portraits and statues of the great heroes and benefactors of civilization should abound in our schoolrooms, libraries, and public buildings. A few great allegorical scenes like "The Last Supper" will help to produce reverence. Stirring scenes from the great dramatic episodes in history will help to produce admiration for the builders and defenders of our heritage. It is doubtful, however, if most of the allegorical paintings and statuary stimulate much interest of any sort in any except those highly trained in art. To most people they are meaningless, even when labeled. Doubtless much art, like that of the Cubists' and other special types, is so bizarre and devoid of meaning that it is valueless in education. If any production really has a great meaning, pupils should be instructed to know what it symbolizes. Doubtless more widespread instruction in the interpretations of art would result in greater appreciation.

Music and moral culture. It is with music as with other forms of art. There is no necessary moral value to be derived through hearing music or in its rendition. Musicians and music lovers are not necessarily honest, truthful, good neighbors, or good citizens. It is even often said of musicians as a class that they do not get along with people harmoniously. However, if that be true, it is not because of being musical, but because they have failed to cultivate an important part of their nature. Extreme devotion to any other vocation at the expense of the finer altruistic emotions would have produced the same result. Darwin tells us regretfully that in his case he did not appreciate

music in the least because of his life-long exclusive devotion to science. Music is the universal language of the emotions. This should be recognized in education.

Music is far more fundamental than arithmetic or spelling. The emotional attitude of individuals toward individuals and toward society is pivotal in civilization. If citizenship is our paramount objective, the proper cultivation of the universal language of the emotions is not a fad or frill in education. As a nation we have not glimpsed the possibilities nor grasped the opportunities in education through music. The objective should not be a musical education in technique and theory or even a knowledge of music for merely cultural ends. Some children should be highly trained in music because that will be their vocation, but the great masses need to be educated in music because it is through music that they can become educated in the finest relations of life. Music should be employed to develop the beautiful qualities of sympathy, love, loyalty, friendship, patriotism, and religion. It can be made far more potent than any rhetoric or logic. Age-long experience tells us that music has ever been the handmaid of the gospel in awakening religious emotions. Religious revivals would be ineffective without music.

The place of music in war is well known. The army is stimulated to action by the martial music. Feelings of patriotism—and doubtless of hate—are aroused by the music always provided in every military organization. Doubtless the one factor that produced national cohesion and kept alive fealty to fatherland in the German nation was music. Though struggling at great odds with overwhelming numbers, the national German airs served to fire the soldiers and citizens with a new and dogged courage. For generations all the people from grandsire to children

learned in the nursery to sing the national songs. In the homes, in the schools, in the beer gardens, all joined in the common expression through songs of loyalty to fatherland. "Die Wacht am Rhein" and "Deutschland Ueber Alles" were memorized and sung so many times that the sentiment became a religion. Is there not here an educational lesson for every community, every state, every nation? While we should not encourage a narrow, distorted hyper-nationalism, should we not utilize music as the means of awakening feelings of kindness and universal good will? War songs engender hatred; peace songs dispel them. Who could sing "Lead Kindly Light" or "Blest Be the Tie That Binds" and feel the same personal or national hatreds as before?

It was said before the World War that no mixed audience of Americans could sing "America" without the printed words. If so, and it was doubtless substantially true, what a commentary it was! At the present time nothing in American life is more important or more to be desired than greater coherence, greater unity of purpose. Too many things tend to pull us apart, to make us work at cross-purposes. With our heterogeneous population, while retaining the strength and individuality of each, we need to seek out common ideals on which all can unite to work for the welfare of the nation—of humanity. Music furnishes that universal language. Music should be a regular part of the school curriculum. It is not a "fad" or "frill" but a fundamental. This does not mean the science of music, but singing in which all give voice to uplifting sentiments, which make those who hear and, still more, those who sing happy and pulsing with a kindlier attitude. The school should help to spread music to the home in order that parents and children may share together the ideals upheld by the school. Community gatherings should feature music, vocal and

instrumental, individual, chorus, and community. Every school neighborhood abounds in talent ready to serve if but the opportunity is given. Leaders there must be, but not necessarily with highly trained technique and skill. Chief in importance is enthusiasm, devotion, and wisdom in the selection of the music.

Moral education through athletics. Enthusiasts for athletics have buttressed their claims for a large place in the curriculum for athletics by maintaining that athletics promote morality to a high degree. Undoubtedly some participation in athletic activities promotes health of body and of mind. No aim of education is more important. Health means wholeness; wholeness means holiness. But before committing oneself to a modern program of athletics in high school, grammar school, or college, in the belief that it is promotive of morality, a careful analysis should be made.

Athletics in American schools have come to mean competitive athletics—fiercely competitive. "Win games for our school; win them at any cost!" is the slogan. The better development of the health of those who are average or below par, or the maintenance of the health of those above par is not the end sought. For the competition, only those are selected who need no athletics to promote their health.

The country is combed for those who are physically fit and who are expected to stand the severest strain. They are trained, not to establish health habits but to gain skill to overthrow competitors similarly trained. Even from the standpoint of health it has not yet been demonstrated that athletics promote health. There is no evidence that athletes are in better health after a season of training and competition than they were at the beginning. Of course, they are more skilled. That was the end sought and achieved. They were in the best of health when selected. That is why they were

selected. But are they improved at the close of a season? The published accounts of wrenched backs, "charley horse" legs, dislocated shoulders, torn ligaments, and outbreaks of boils, do not seem to indicate improved health. And what about twenty years after? The papers are full of accounts of famous athletes who succumb to disease in early middle life from hearts overtaxed in the college period. When attacked by typhoid or pneumonia, athletes seem to have no advantage-resisting power over non-athletes. Participation in athletics should promote health and longevity and I believe might do so; but, as now carried on, do they?

If all in school, from kindergarten through the university, were required to participate in physical exercises arranged to meet individual needs, such exercises would promote physical health and clean living and, to that extent, promote individual and social morality. But needless overstrain does not promote growth and health. It is wasteful—hence immoral. The statement was made long ago by Aristotle that the winner in the Olympian games was never a winner both as a boy and as a man; the overstrain in youth eliminated him from participation as a man. It should make us pause. Not only should we think of the physical health of the contestants in group games but we must think of the moral attitudes of the spectators. Undoubtedly the majority of the crowds that throng the athletic parks and stadiums are benefited by the outdoor air, the active exercise, and the exhilaration due to vocal demonstration. No doubt the majority have their attention withdrawn from themselves and feel some thrill of group interest; no doubt the majority feel some impulse of group loyalty and have more friendly attitudes after attending a great football game or track meet; but intermingled with these is the crowd (not small) of fans, sports, gamblers

whose interest is wholly bad. To a large extent, as is well known, sports—even amateur college sports—are promoted by the professional “sports.” We all know how college players are sometimes secured by fake jobs provided so that “poor boys may work their way through college.”¹ We know that many college players are in college only for the athletics, often not meriting the grades they get. We know, also, of the slugging and purposive disabling of opponents in order to win games. Happily these things are diminishing, but they are still all too prevalent. Within my memory two great university teams, each undefeated, were to meet to decide the championship in that league. The great day came and lo! all the players on one team were ill—poisoned presumably by the other team through “dope” in the food. These things do not promote morality!

Participation in athletics and group games undoubtedly promotes group loyalty and develops friendships. Both are desirable. There is no certainty, however, of a transfer of the idea of loyalty to other groups. Moreover, with the idea of winning games at any cost for “our” team, a species of selfishness is engendered. It is akin to family and village provincialism, good for “our” family and “our” town, but narrow and anti-social so far as outsiders are concerned.

If good clean games, accompanied by generous sportsmanship toward the winning team, can be maintained, athletics may contribute to good citizenship. Ideal citizenship is never petty and narrow but broad and generous. We all know of cases where visiting teams, especially if winners, have been shamefully treated. Some high-school coaches have told me that sometimes the behavior of

¹ “American College Athletics.” The Carnegie Foundation for the Advancement of Teaching, *Bulletin*, No. 23, 1929

athletic teams toward the citizens of rival towns is not only shocking but even positively dangerous.

World citizenship is the desired ideal and that means friendliness toward all and not alone toward *our* family, *our* school, *our* fraternity, *our* city, *our* state, *our* nation. The school is the place to begin to cultivate those world visions and sympathies. If pupils grow up narrow, provincial, full of hatreds toward rivals, what may we expect but wars among the nations? Nations are but aggregations of individuals and with all the added momentum of mob psychology.

Moral values through literature. Literary study should yield rich moral values because of its content. Literature is created to analyze human character and depict human conduct. Every author of real literature attempts to convey a message of idealism. In some writings called literature, the ideals are not especially elevating; but such writing is ephemeral in nature.

All the great literature that stands the test of time attempts to bias the reader toward the higher and nobler things of life, and against the base and ignoble. Human strivings and motives are analyzed, the emotions and passions are dramatized in word pictures so as to bring out a love for the finer and nobler phases of character and a hatred of that which is narrow, mean, or contemptible. The idealized characters in literature, if artistically and dramatically portrayed, make us wish to be something better and more worthy than we now are.

Because literature has for one of its most important aims the portrayal of ideals of life and conduct it is one of the most important subjects for moral education. One of the chief reasons why it is a potent force is that it appeals

primarily to the emotions and, in that way, stimulates to action. It deals impersonally with great questions and develops principles of conduct inductively through concrete illustrations. The reader imperceptibly builds up standards as he is carried along by emotional currents stimulated through admiration for certain characters portrayed and through disgust or hatred of others who are unworthy characters.

Dr. Neumann says that:

One reason for its unique serviceability is the fact that literature touches the feelings far more effectively than information in history and civics. It selects for its themes the hopes that a country cherishes most widely and most ardently, and it sets these forth in the appealing garb of beauty. As we shall see presently, no noble American aspiration has ever lacked voice to utter it in song or story. Is it political liberty, is it brotherhood, is it a plea for justice or a passion for a better world order? Somewhere, we may be sure, a poet has framed to music what thousands of his countrymen are thinking and what they see and feel more vividly once they have heard his words. For it is the mark of all good literature that it possesses this rare power to clarify and to strike home. Often a single mighty phrase will light up the dark places of the mind and burn its way to the depths where motive powers are generated. At no time do heart and brain better reinforce each other than when the appeal is uttered in the beauty of literary art.¹

Too often the study of literature is a purely academic and intellectual exercise entirely devoid of any worth-while values to the average pupil in the high school. As an illustration of that tendency the following questions arranged by a textbook compiler of Robert Burns' poems are appended.

Was the choice of the Spenserian stanza for this poem based on

¹ Neumann, Henry. "Teaching American Ideals Through Literature." U. S. Bureau of Education, *Bulletin*, 32, 1918, p. 6

good reasons? For what species of poem is this form best suited? Why? Make a list of noted pieces written in Spenserian stanzas. What is the so-called "Burns stanza"? Are there samples of it in this book?

Pick out the archaic words in the poem. Explain why Burns used them.

Why are only ten of the stanzas in Scottish dialect, and the rest in almost pure English?

Observe how much Burns was indebted, both for ideas and for modes of expression used in this poem, to Gray, Goldsmith, Pope, Fergusson, and Thomson. Does this imply lack of originality? Was Burns, as a rule, a "bookish" poet?

Which stanzas are mainly descriptive? which narrative?¹

In the hands of an immature and meagerly trained teacher of literature (and that includes the majority) the book would be slavishly followed. Why should pupils be asked to learn the bits of academic information sought by those questions? They might be appropriate for advanced college students in literary criticism who are going to be writers, teachers, or life-long literary scholars. Ninety-five per cent of all the high-school pupils studying this selection, however, are going to be just ordinary citizens in the various walks of life and have no desire for or need of the academic lumber suggested by the questions. What they need most is a glow of feeling, a resolve to be better and nobler men and women, a higher respect for the common man, a reverence for the home, and a new conception of all human relations.

In his inimitable way, Tyler flays the practice of spoiling beautiful literature by dissecting it and trying to make it teach history, botany, or science, when the pupils should feel some of the movement, power, and life of the poem.

¹ Venable, W. H., *Selections From the Poems of Robert Burns*, p. 28. The compiler was a high-school teacher in a large high school

before they proceed to destroy all by their dissection, analysis and rules of prosody and grammar.

Perhaps we are teaching literature: some great poem, or thrilling oration, or a description of matchless power and beauty. We can make it our first aim to have our pupils look up every reference. They will learn much botany, archaeology, astronomy, and other useful and useless bits of information, which they will probably commit to their note-books and promptly forget. In my younger days we used Milton's "Paradise Lost" as material for the study of analysis. . . .

We wish first of all, that they should enter into its spirit, find in it an inspiration which they cannot analyze or express, discover a beauty and a "light which never was on sea or land." . . .

In thus teaching literature we have done something far better than merely to give literary instruction. We have awakened a new and life-giving interest which otherwise would have remained dormant and have died. . . . But if Milton's lines are only material for analysis, and Homer is only a peg for rules of grammar, where is the inspiration to come in?¹

First of all, the literature studied by pupils must be interesting *to them*. They should read it because they like it. The fundamental question raised by the teacher in selecting literature for the high school (or any other stage) should be, "Will the pupils enjoy it?" We wish them to learn to love the best in literature. How can we cultivate that taste if what we select is repugnant to them?

It must be suited to their stage of development. Many splendid pieces of literature as judged by adult scholars are entirely unsuited to adolescents. Burke's *Speech on Conciliation* is a fine example of political philosophy but no freshman in the high school will become enthusiastic over it. Pope's *Essay on Man*, and Milton's *L'Allegro* and *Il Penseroso* are masterpieces of literary workmanship and are

¹ Tyler, John M., *Growth and Education*, pp. 191-193

enjoyed by college professors of English but not by high-school boys and girls. Very few of the classics selected for high-school pupils make much of an appeal to pupils of that age. With this maladaptation and with interest in the characters largely lacking we can not expect much of a contribution to character education through literature. Most of the masterpieces selected are philosophical. They should be full of adventure, abound with heroes, and shot through and through with romance. In these types of literature it is not hard to enlist interest nor to get the boys and girls to appraise deeds and characters. That is the objective in trying to develop moral thoughtfulness.

It is very easy to see that interesting fiction written by a master artist inevitably carries us along with the author causing us to share his emotions. We learn to love his heroes and heroines, to despise those whom he creates as their enemies and rivals; we espouse the great causes in which the ideal characters engage, and learn to hate those who oppose and endanger the welfare of those with whom we have cast our sympathies.

A few illustrations will suffice to show this tremendous influence of a skillful writer. Undoubtedly no other force was so potent in stirring the North into a great passion against slavery as Harriet Beecher Stowe's *Uncle Tom's Cabin*. Inevitably we loved little Eva and our deepest sympathies were aroused toward Uncle Tom who meant so much to Eva. Our deepest hatreds likewise were unleashed toward Simon Legree, the slave driver, and all slave owners. The book and its portrayal on the stage appealed to old and young alike and accomplished more than all the logic of all the orators and newspapers combined. The South, of course, feels that it was entirely overdrawn. It doubtless was. It is cited here only to show the tremendous potency

of skillful literary craftsmanship. Another example, somewhat counterbalancing *Uncle Tom's Cabin* is Thomas Dixon's *The Leopard's Spots*. Even in the North with all our deep-seated prejudices, Dixon paints such a vivid picture and creates such courageous heroes and lovable heroines to plead his cause that we at once fall in love with them and inevitably espouse their cause. The characters opposing are portrayed as so mean and base that we find ourselves despising them and the measures which they represented. What admiration we have for the brave Charlie Gaston and how we love Sallie Worth and through them we come to champion every cause they espouse. How we come to hate the carpet baggers and the swashbucklers of those reconstruction days.

Both of these books are types of literature that will grip the interest of boys and girls. If they are too biased and one-sided for use in school there are others equally interesting to be secured. It would be well if boys and girls in both the North and the South could read both books. They would learn how deeply each section of the Union felt upon that grave problem which almost rent the Union asunder. If each side could only understand the other the dangers would be decreased. One of the great needs of the present is to understand the other fellow's point of view.

In Zane Grey's *Sunset Pass* the reader is inevitably led to admire Trueman Rock through every detail of characterization. To be assured of his nobility of character we do not require Amy's " 'Oh, thank you, Trueman,' she replied, in delight, squeezing his hand. 'You always were the dearest, kindest fellow when anyone was in trouble.' " In contrast, from the first introduction of Ash Preston we begin to discern his meanness although he and Rock appear to be of the same type of rough, careless, quick on the

trigger, wild west cow punchers. But we have sized him up even before Grey tells us how Rock reacted. "Ash Preston struck Rock as a man without fear or conscience, and even without a heart, except where Thiery was concerned." Of course, from the moment we are introduced to Thiery and Rock, their welfare becomes our concern.

Barrett Willoughby in the *Trail Eater* immediately enlists our admiration for Kerry Wayne. Almost the first introduction when "Smiling, Kerry walked into the room." We want him to win the sweepstakes race with his mamalutes. We are in constant fear lest his underhanded enemy, Rance Herrington, may do some low-down trick to cripple the dogs or imperil Kerry. We were made suspicious from the moment "Rance Herrington's jaw set with suddenness." How we despise Rance when he beats Tokon unmercifully and says "I'll make you come to time! I'll show you who's your master!"

In both of these stirring tales of frontier days, one in the Old Southwest, the other in Alaska, there is enough of adventure, hardship, romance, and conquest, to carry adolescent boys and girls along without compulsion. The stories are clean and wholesome and are sure to stimulate the finest emotions and ideals.

The paramount purpose of teaching literature is to present noble ideals in such an attractive and compelling manner that they shall be felt even though not formulated. The story itself should grip and carry the reader along by the interest it enkindles. Its appeal should be primarily emotional, not intellectual alone. It should create attitudes and be little concerned with erudition. If chosen wisely, little will need to be done in the way of direct discussion of the moral values. However, to some extent, the teacher should be on the alert to seize the psychological moment

to guide the movement of thought so as to select the best and to help to deepen impressions faintly made. Without artificially dragging them in, appropriate questions can be skilfully raised which will quicken and clarify ideals budding in the learner's mind. Dr. Henry Neumann has afforded an illustration of how to employ direct questions in connection with a literary masterpiece. He says:

Here is a specimen of the more extended questioning sometimes needed: In teaching "The Vision of Sir Launfal," some such questions as the following might be asked to bring out the truth that democracy respects the hidden worth of men:

Why did the leper refuse the coin?

Why did Sir Launfal toss it in scorn?

Why is it inaccurate to say that he gave "from a sense of duty"?

What would a genuine sense of duty require?

Why did the knight shirk this real duty?

Can you mention any instances where people offer a substitute (that is, toss a coin) instead of doing the harder thing?

What was Lowell's purpose in revealing the divinity of the beggar?

Why did he make him not only a beggar but the victim of a loathsome disease?

Go back to the line, "Daily we Sinais climb and know it not"; what does the reference mean?

Why was the knight at first unaware of who it was that he was facing?

Does this poem tell you anything about democratic ideals?

How does democracy express this honor to the sacredness in men?

Read Lowell's poem, "A Contrast," and the essay, "Democracy," and compare the ideas with the one in this poem.

Read also Emerson's poem, "Music," Whittier's "Democracy."

Read and discuss "Exit Charity" in Zona Gale's *Neighborhood Stories*.¹

It must be very apparent to any one who glances thoughtfully through any reader for the grammar grades that the

¹ Op. cit., p. 255

great majority of selections are chosen with the idea of the appeal to the finer emotions. Hugo's "How Jean Valjean Found a Brother," must touch the most flinty heart. The responsibility of society for the vast amount of human wreckage and the duty in salvaging it, can easily be made apparent through the perusal of the thrilling pages. No boy who has ever heard Longfellow's *Paul Revere's Ride* read with expression, could fail to want to do something big and fine and brave. Longfellow's *Excelsior* has rung through the ears of thousands of boys and made them resolve to do something worthy or die in the attempt. John Rodman Drake's apostrophe to *The American Flag* has made youth's blood tingle as they have recited:

When Freedom, from her mountain height
Unfurled her standard to the air,
She tore the azure robe of night,
And set the stars of glory there. . . .

Flag of the brave! thy folds shall fly,
The sign of hope and triumph high. . . .

Flag of the free hearts hope and home!
By angel hands to valor given.

Likewise Sir Walter Scott's *Love of Country*, may well be used to help the youth to imagine himself returning to America and, in viewing the Statue of Liberty in New York harbor, to spontaneously repeat with fervor the lines.

Breathes there the man with soul so dead,
Who never to himself hath said:—
"This is my own, my native land!" . . .

If such there breathe, go, mark him well;
For him no minstrel raptures swell; . . .

The wretch, concentered all in self,
Living, shall forfeit fair renown,
And, doubly dying, shall go down
To the vile dust from whence he sprung,
Unwept, unhonored, and unsung.

This, with Edward Everett Hale's *The Man Without a Country*, should certainly stimulate a finer patriotism and devotion in any boy or girl who reads them. Lincoln's Gettysburg Speech ought to be read with sincere emotion to pupils by every teacher of English, history, and civics. Pupils should memorize it and recite it with all the fervor of reverence, and high resolve within their being, especially the lines:

It is for us, the living, rather to be dedicated here to the unfinished work which they who fought here have thus far so nobly advanced. It is rather for us to be here dedicated to the great task remaining before us, that from these honored dead we take increased devotion to that cause for which they gave the last full measure of devotion; that we here highly resolve that these dead shall not have died in vain; that this nation, under God, shall have a new birth of freedom; and that government of the people, by the people, and for the people, shall not perish from the earth.

In this day of the rapid disintegration of the home, which is the keystone of the arch of civilization, the following stanzas from an anonymous writer would exert a steadying effect if learned early and thoroughly integrated with the child's emotional background of life:

OUR MOTHER

Hundreds of stars in the pretty sky,
Hundreds of shells on the shore together,
Hundreds of birds that go singing by,
Hundreds of bees in the sunny weather,

Hundreds of dewdrops to greet the dawn,
Hundreds of lambs in the purple clover,
Hundreds of butterflies on the lawn,—
But only one mother the wide world over.

The value of memory gems. The law of ideo motor action (viz., that every idea which gains lodgment in the mind tends to express itself in action) is sufficient warrant to urge memorizing gems of poetry, proverbs, and beautiful, uplifting sayings. The Buffalo Plan, the Utah Plan, and the Iowa Plan, of character education all urge emphasis upon this phase of method in character building. Accompanying are types of gems suggested:

FROM LITERATURE OF THE AGES

Count that day lost whose low descending sun,
Views from thy hand no worthy action done.

If angry count ten; if very angry count a hundred.

—*Franklin*

Then plow deep while sluggards sleep; if you would have
corn to sell and keep.—*Franklin*

Sweet are the uses of adversity.—*Shakespeare*

Do a good deed every day.

In the lexicon of youth which fate reserves for a bright
manhood there is no such word as fail.—*Bulwer*

He who steals my purse steals trash but he who steals my
reputation steals that which enriches him not, but makes
me poor indeed.—*Shakespeare*

A soft answer turneth away wrath.—*Bible*

Avarice sheds a blasting influence over the fairest and
sweetest of mankind.—*Washington*

For they can conquer who believe they can.—*Virgil*

A good name is rather to be chosen than great riches.—*Bible*

I am not bound to succeed, but I am bound to live up to the light I have. I must stand with anybody that stands right, stand with him while he is right, and part with him when he goes wrong.—*A. Lincoln*

History in character education. History originally meant chronology and as such its study in school consisted largely of learning names, dates, and events, with little or no attempt at their evaluation or interpretation. When so taught, history was almost purely an intellectual discipline and yielded little ethical value. There was no opportunity for ethical judgments by the pupil and little such attempt by the teacher.

A new conception of history as a school subject, however, has been gradually evolving in the last quarter of a century. Instead of being largely a chronicle of military and political events progressive teachers have sought to portray the whole array of movements, industrial, social, political, and military, and to try to discover in them causes and tendencies in human evolution. Not only facts but motives have been sought. Thus conceived, history is rich in ethical values. Before it can become very significant in character education, however, school histories will need to be rewritten so that teachers, meagerly trained and overburdened as they are in the average small school, may find proper guidance in their work. With existing text books they will still be led to think of politics and war as the chiefest events for consideration. Pupils need to learn of the great captains of industry, the thinkers of the ages, the idealists of literature, the toiling millions in the workers' ranks, as well as of the battle heroes, explorers, and statesmen.

A study of history should help pupils to develop a more coöperative spirit by unfolding to them the great struggles

marking the development of civilization. They should see that individuals alone have been able to accomplish little, but by united effort the gigantic strides in industrial, political, and social life, have been accomplished. History should aid them to see the importance of work. With the manifold conveniences and luxuries, the average pupil, who has but to touch a button to bring light, heat, and food, little appreciates what advances in civilization have cost some one. Take them back in history to the hardships and privations of a pioneer day; let them see in a vivid way what toil was necessary in clearing the forests, upturning the prairie, hewing the timber, raising the merest necessities in food, providing raiment and shelter, and a new feeling of human sympathy results.

It is perfectly obvious that the study of history cannot yield very great moral values for younger pupils in the lower grades. They are not mature enough to judge to any extent concerning the complex ethical questions involved. Younger children can understand and appreciate the simple story of history and may learn to evaluate somewhat superficially the simple conduct and conditions described. The history may be valuable as interesting story and as a basis for later, more serious study of history.

If history is to yield the largest possible ethical values there must be entire freedom for teachers and pupils to discuss frankly moral questions involved. Of course, the teacher should preserve a judicial attitude and try to present all sides fairly. He should allow the pupils to raise questions and objections so long as they are presented in a respectful inquiring attitude. While the teacher should present all sides of a given question, he should be allowed perfect freedom to indicate his own beliefs and judgments. This should never be with an assumption of finality or in

an offensive way. Absolute freedom of discussion in a spirit of fairness should be the ideal of the classroom. The teacher should not be a propagandist but should be free to express convictions on either side of a controversial topic when desired by the pupils and when she deems it proper to do so. The objective sought is an attitude of free inquiry, open-mindedness, and tolerance, on the part of the pupils. How can such an attitude be developed except through participation in such exercises while in preparation for citizenship?

Of course a teacher should exercise common sense and not try to stir up controversies which would lead to personal bitterness. One of the purposes of the free discussion should be the development of group harmony through more accurate understanding. If a given topic is likely to engender bitterness and animosities it would be better to omit it and take something else that will contribute to the end in view. Neither the teacher nor the pupils should sacrifice principles of conviction, but often the time is not ripe for certain discussions. It may be that at another time, from another approach, the same question can be considered more fully, fairly, and judicially. The purpose is not to settle questions but to teach pupils how to weigh them scientifically and judicially. When they have become practiced in studying fully, weighing impartially, and exercising tolerance, they can often tackle questions that previously stirred only feelings of personal animosity.

Character education through a study of civics. The pursuit of the subject of civics, as carried on in the past, certainly has not been very productive of moral development. Pupils who are required to memorize the United States Constitution from the preamble through the last amendment and then their State Constitution in the same fashion, simply in order to answer stereotyped questions, do not

develop much of a civic consciousness. If they are simply to cram in such facts as the number of senators, representatives, and judges, the length of term of office, their salaries, the formal statement of their duties, and the like, the pupils are apt to be indifferent to the subject or disgusted with it. Certainly no ethical interest is kindled and little moral growth results.

There is no other subject, however, that is more pregnant with possibilities of moral stimulation than is civics. It must be approached entirely from the functional point of view rather than the merely informational. Of course, information,—facts, are necessary to develop the enlightened conscience. So large are the opportunities for moral judgments in the study of civics that it might almost be called moral education or education in citizenship. To be sure, the old type of civics or civil government would not contribute very much to an enlightened conscience on civic questions. It scarcely contributed enlightenment on civic questions and still less to the quickened conscience. But if the subject is taught so that pupils realize clearly that they are studying real problems growing out of their everyday life, they develop a personal interest in the study. Unless a study grips the pupil as one that vitally concerns him, it has little ethical or any other significance for him. The problems in civics should grow out of his everyday environment and their study should contribute something toward a satisfactory (to him) solution of them.

Of course, it should not be expected that the young adolescent will have discovered all the problems that should be considered but they should be near at hand and should easily be recognized as problems when brought to his attention. Furthermore they should be so recognized that he would want to grapple with them and desire to find a solu-

tion. A burning zeal must not be expected to be developed in every member of the class, but the interest must be readily awakened in the majority, or the topic would be better postponed.

It is of very little value for pupils to study about civic questions unless they recognize in them real problems and come to feel an obligation to help solve them. During adolescence with all of its individualism it is far easier for young people to recognize rights much sooner than they do duties and obligations. It is this very consciousness of responsibilities that a study of civics may awaken in them. The whole range of social studies must be extended in the grammar school and the high school. They are the ones that will contribute to ideals of citizenship more definitely than mathematics, abstract science, formal grammar, and foreign languages.

The pupil should early be led to look with indignation upon that which is base, unjust, and unworthy. He should be trained to look with disgust and abhorrence upon conduct that is disgraceful not only where personal injury has come to him but whenever justice and right have been outraged. Children must be aroused out of indifference to wrongs against others, into active championship of the oppressed and the down-trodden. The habit cannot be formed too early. There is something wrong with the education of children of ten years of age if they delight in the persecution of animals, in seeing weak children bullied and abused by the stronger. Often children tease others in a thoughtless way, but no well-trained child delights in witnessing or causing real injury to another. Abraham Lincoln, in manhood the emancipator of the lowly slave, in boyhood was laughed at as the friend and champion of the inoffensive turtles which were stoned by the rude school-boys. He was

as ready to fight for the rights of the turtle as for those of the oppressed black man.

It is only through the development of the feeling of indignation against injustice that one becomes the real friend of society. Not to injure others is well, but not enough; it is only negative. One must be positive as well as negative. Proper development of this feeling leads one to defend his friends and neighbors, his state and his country as well as himself. It leads one country to defend another unjustly attacked. It led the United States to defend Cuba and the Philippines against an outrageous foe. It led the Union to dismemberment when each section believed itself to be the champion of certain inalienable rights apparently violated. These feelings must actuate the philanthropist, the minister, and the true statesman. The feeling is apt to be ill-nourished, because personal loss often follows attempts to champion the rights of society. Were the feeling properly developed in all, our cities would be well governed, our streets clean and well lighted, public sanitation perfect, our children properly schooled, our laws better obeyed, justice better administered, our taxes cut in half, our public parks increased, public nuisance abated, the poverty stricken provided with work, and municipal corruption eliminated. But so long as the public conscience is apathetic and we do not feel indignant at public wrongs unless we are affected individually, just so long will public wrong continue. We are too apt to close our eyes to everything that does not strike home. The criminal knows this. Only the individuals wronged are anxious to testify against the criminal, and they are easily eluded. But when every individual in a community is ready to champion the rights of every other individual in the community then the criminal finds it dangerous to operate there.

To the development of these newer, higher, and nobler attitudes the teacher of the social subjects may make a genuine contribution. In fact, the only justification for the social subjects in the curriculum is that they may perform this service. As mere information, mere erudition, or as formal mental training, they have no excuse. If a boy studies history, civics, economics, or sociology, and does not think differently about human welfare and human relations, if he does not have deeper sympathies and the urge to co-operation and helpful service, the values are largely nil. He may pass examinations and gain his grades and credits, but what of his behavior, what of his conduct, what of his citizenship and character? Those are the only true measures of the value of the curriculum to the pupil.

8. MORAL EDUCATION THROUGH SCHOOL ACTIVITIES

Participation as well as instruction. Actual participation in welfare activities is one of the most important factors in moral education. Education by doing has been an important slogan for a long time. Ruskin said: "Education is not to teach men what they do not know but to teach men to behave as they do not behave." Practice in right behavior must supplement and often precede knowledge of right behavior. Right behavior should always be an outcome of knowledge of right behavior.

The modern school has come to afford numberless ways of securing experience in the practice of good citizenship. The school itself, if rightly conceived, properly organized, and well administered, is an ideal citizenship center. Of course, if maintained on the old plan in which the school was a place where pupils were sent through no wish or will of their own and where the whole organization was ready-made by the teachers which the pupils were to accept

unquestioningly, the citizenship values were far less than they should have been. Under the new conception of the school as a place not merely to train scholars, but primarily to develop citizens all is changed. In the first place, the school is an interesting place where the pupils want to go. The newspapers are all wrong in assuming that when vacations end, the pupils pity themselves as being consigned to prison and when vacation comes, they get the only pleasurable moments in a somber life. Of course, they welcome vacations; that is psychological. It means change, but the great majority honestly look forward with pleasure to the return to school with its rich experiences and opportunity to peer into the great world about them. To be interested in what one is doing is a foundation element of good citizenship. The drone, the malcontent, is always a poor citizen.

In the second place, the school itself is one of the highest expressions of morality. It is specifically designed as a welfare institution. It aims to benefit society and the individuals attending the school. It is provided by and for society by the free will of the members of society, voting and levying taxes. The school may and usually does lead the pupil to interpret the place and function of the school, its relation to other institutions. This means thoughtfulness concerning the welfare of its citizens by the state. The public provides these wonderful opportunities and then expects the pupils to utilize advantageously their time and talents in preparation for a life of service—not merely personal gain. This means moral thinking and induce moral thoughtfulness.

Then again the school may stimulate moral thoughtfulness through the interpretation of life in its manifold relations through the course of study. This has been enlarged upon in connection with several types of school subjects

Many consider that the most potent way, if not the only way, in which moral training can be given in the school is through the various extracurricular activities. Valuable as those are, they largely fail if not given meaning through the various avenues just considered. These interpret, guide, and make richer and more meaningful, all the group activities.

Doubtless the greatest advance made by the school in recent years is not in methods of instruction or in measuring its results, but rather in the new attitude developed within the school on the part of pupils and teachers. The socialized school is new and is present with us even where it is not so named. In many cases where nominally socialized, it is no more of a reality than in other cases where no such name exists but where there is the real spirit of social helpfulness. The attitude, the spirit, are far more important than the name or formal organization.

Pupil government. During the last few decades great changes have taken place in the organization and management of schools. This has come about for two reasons, first, because of the enormous increase in the size of many schools and, second, because of a growing spirit of democracy in the schools themselves. Gradually teachers caught the idea that in a democratic country, the school can not function efficiently if teachers are autocrats and pupils merely subjects expected to obey. Restless youth, imbibing the spirit of freedom outside the school, chafed under the restraints within. With a large influx of youthful teachers into the schools, the situation was the more easily sensed and, since they were more sympathetic with youth than had been the older generations of teachers, gradual attempts at a readjustment to fit the newly understood needs were made. This was emphasized by the new developments in the training of teachers. Especially influential were the teachings of G.

Stanley Hall in helping teachers to vision a new interpretation of youth.

About two decades ago many experiments in so-called "self-government" were tried. In some cases they were very successful and in other instances sadly disappointing. The attempts were successful where there were leaders possessed of the real meaning of self-government and with personalities inspiring pupils to catch the same meaning. In cases where disaster followed, it was not due to any inherent defects in the idea but to a mistaken idea of democracy or to weakness in leadership.

Self-government should mean literally government of self; ability to control one's own behavior without the necessity of external force. This should not mean, however, that the individual dispenses with external suggestion and guidance. He should welcome and seek such assistance. Many principals have made the mistake of leading pupils to think that the teacher's guidance was superfluous and should be resented. For example, study rooms were turned over to the pupils and the teachers literally turned out. Athletic funds were taken over from teachers, placed in the hands of pupils, with no accounting to teachers, and no teachers on committees. The results were mismanagement and confusion not from intentional dereliction but from ignorance and lack of guidance. Again, self-government frequently meant organization for the purpose of governing the other fellow without consideration of welfare or justice. It frequently meant opportunity for the lowest sort of self-seeking at the expense of others.

Actual participation in government is the most effective means of teaching ideas and ideals of government. In fact, without this phase of learning, the real understanding of government can never become complete. On mention of

self-government immediately there may appear an image of a schoolroom in which the pupils have a certain machinery of government, usually patterned after the Federal governmental machinery. There are usually the legislative, executive, and judicial branches with constitutions, laws and various regulations, and sundry officers elected by the pupils. Such a plan often works well and contributes to the ideal end sought (viz., better ideas of governmental machinery, means of creating and using the machinery), and it may contribute to better ideals of conduct, character and citizenship. Sometimes it does not contribute to such ends. Doubtless the machinery, thought by many to be the important thing, is very subordinate, and we must look for something far deeper for the real factors which contribute to genuine morality and citizenship. Usually it is found that a scheme of self-government works well or poorly according to the type of adult personality who is the guide in promoting it. Immature boys and girls seldom have the initiative and directive force to launch successfully a self-governing plan. On the other hand, youth in the teens possess such great potentialities and enthusiasm for co-operative management that they are fortunate if associated with wise leaders with the right ethical ideals, with desires for human service, and with sufficient insight into human psychology to know what to develop, when to develop, and how to do it.

The superiority of self-government over the regular curricular activities lies in the fact that action is secured and not alone knowledge and ideals. These last have a very important function, but if they do not lead to action they may become so dormant and diffused as to practically lose their vital effect upon character. Habit is the basis of will. If good ideals are not translated into good actions and these

oft repeated so as to form good habits, moral character is not greatly influenced.

Machinery of pupil government should be subordinate. The important thing in a self-governing scheme is not the machinery but the *motive*. Self-government should mean government by *self*, that is, government by impulses from within rather than government by compulsion from external authority. If the self-governing plan leads pupils to determine their everyday conduct merely by the permissive and prohibitive regulations, they have not progressed very far in ethical self-government. While democratic government properly establishes regulations decided by majorities, the individual who merely complies with those regulations and then does undesirable things not forbidden or omits the performance of serviceable things not commanded, does not manifest the kind of self-government which a real democracy idealizes. In our larger democracy the outstanding features making it an object lesson to the world are not merely the abiding by laws enacted by majorities, but the fact that so many fine acts of philanthropy, public service, charity, and good will, are daily performed by so many of its individuals without any mandates of law. It is also characteristic of our democracy that so many do not take advantage of loopholes in the established laws to rob, plunder, defame, or otherwise injure their neighbors. It is the genuine spirit of altruism back of all the machinery that is significant. The machinery will certainly contribute to a knowledge of means of assisting, protecting, or restraining others; but devoid of altruism, it may defeat the true ends of democracy. Merely government by majorities is not necessarily true democracy. It may mean demagoguery instead. "Each for all and all for each" is the only real spirit of democracy.

Two cases of perverted notions of self-government in

school came under my observation. In a certain grammar school self-government was instituted by the principal. He helped the pupils to develop machinery similar in organization to the Federal government. The pupils took to it with eagerness and vigor. For some reason or other the ideal grasped, however, was that here was an instrument to be placed in their hands to secure their own selfish ends. They did not grasp the idea that here was a means of promoting the welfare of all. It appealed especially to a group of ring-leaders. By methods known to ward politicians they secured legislation favorable to the interests of the clique, elected their own bosses to office, saw to it that the judiciary was corrupted so as to favor their own gang and to punish all opposed to them. Soon there was developed a system of rotten politics such as might be the work of much older and more astute ward heelers.

In the other case, a high school, the boys took their cue from the sporting element of the town who had corrupted the football and all school athletics. One day they voted that the teachers were to leave the room and they literally locked them out. They had secured majority rule but of the most oligarchical type. It took years for that school to recover from the slump which it made from good government.

The school should and may be organized in such a spirit that the individual members feel a pride in the welfare of the school. With the development of pride in the welfare of the group there simultaneously grows a feeling of responsibility. Too often, however, there is neither pride nor responsibility. The individual pupil has a purely selfish interest in the school. Why does the average parent send his children to school? To acquire some knowledge of reading, writing, and arithmetic, in order that the children

may later compete successfully with others in the race of life. It is, of course, secretly hoped that they may out-distance others and gain personal advantage. This is doubtless the fundamental, primitive motive for securing school attendance but it is exceedingly unfortunate if it stops there. Should not the ideal parent have the hope that the children may be enabled to learn ideals of service and acquire means of rendering service? That is the real mission of the school. Unquestionably the school may develop that ideal in children even in the grades and still more in the high school. By coming to regard the school as their school and the teacher as their friend they may come to find joy in striving to make the school more pleasant and profitable. Even such voluntary acts as picking up bits of paper from the floor though dropped by someone else, closing doors noiselessly, and refraining from whispering, contribute wonderful gains to the spirit of community welfare. The pupil who will not voluntarily and gladly defend the good name of his gang, his home, his school, has not traveled far on the road to citizenship in the larger community life. Of course, we can not secure all at once. Character is a matter of growth.

Mr. V. K. Froula, an unusually successful high school principal and a leader of boys and girls wrote:

Character-building, then, is the most important work of the school. But character is the "product of nature and nurture." It is the diploma that God gives to man upon the completion of life with all its multitudinous experiences. It is, therefore, too much to expect from the schools that a youth should come forth thence with a perfect character. It is not too much to expect, however, that the youth should come forth from the schools with the seeds of character deeply rooted in his life; that he should have a clear conception of life's purposes and a determination to fill his particular niche in the world honorably and manfully.

Now, with all their faults the high schools are a potent, perhaps the most potent, single agency in moral training of the youth.¹

Fraternities and character development. The fraternity and sorority may contribute profoundly to character development. Unfortunately many have not a vision of the possibilities. The average youth joins a society just as their parents are apt to do—for what they can get out of it. They are all apt to say, "Now, by gaining admission to this fraternity, lodge, or society, I can build up an acquaintance-ship that will help me greatly when I get out into life. I can get a 'pull' that will be very advantageous." While we must recognize the selfish motives, and make use of them as a beginning we should utilize the group instinct to stimulate higher development. Not "what can I get out of it," but what can I put into it, what can I contribute to it, how can I make this a means of rendering higher service?" should ultimately evolve in the youth's consciousness. That is precisely the attitude that should be developed toward the school.

The home the supreme factor in character education. After all, the home is the most potent factor in determining character. Its lessons are unsystematic but certain. Doubtless schools and colleges exert a very considerable influence upon one's science of ethics but the everyday type of conduct, and especially the motives prompting are mainly determined by the home environment. No one is very honest, kindly, or altruistic unless his good deeds are largely automatic and spontaneous, and those conditions can only be developed through long practice. The kinds of honesty, chivalry, altruism, which each one possesses are largely the ones gained by the home fireside. The religious beliefs,

¹ Froula, V. K. "The Morals and Moral Training of High School Students." *School Review*, Nov., 1914, 22: 620-633

ideals, attitudes, and largely the religious practices, which we cling to through life, are the ones gained at mother's knee.

The school frequently has a tremendous problem in developing exemplary conduct because the home ideals are so opposite in type. Many a boy hears his teacher espouse high ideals of honesty in business but the boy takes his cue from his father's sharp practices in business. There he learns that it is considered right and proper to take advantage of a customer provided no legal enactments hinder. When he observes that his father considers it shrewd to misrepresent an article, to keep the ticket which the conductor overlooked, to fail to report property to the tax collector, it is difficult for the school to change the ideals almost inevitably formed. The school can give information and furnish intellectual tools for the struggle in life, but the home furnishes the standards of conduct.

SELECTED REFERENCES

- ADLER, FELIX. *Moral Instruction of Children*. D. Appleton and Company, 1898
- BENNION, MILTON. *Citizenship; An Introduction to Social Ethics*. World Book Company, 1925
- BENNION, MILTON, Chairman. *Character Education*. Report of a Committee on Character Education of the National Education Association, 1926
- BOLTON, FREDERICK E. *Principles Of Education*, Chapters XXV-XXVII. Charles Scribner's Sons, 1910
- BOLTON, FREDERICK E. *Everyday Psychology for Teachers*. Chapters X, XVII. Charles Scribner's Sons, 1923
- BROOKS, FOWLER D. *The Psychology of Adolescence*, Chapters XI-XIV Houghton Mifflin Company, 1929
- CLARK, THOMAS ARKLE. *The High School Boy and His Problems*. The Macmillan Company, 1921
- COFFIN, JOSEPH H. *The Socialized Conscience*. Warwick and York 1913

- Committee Report, *Character Building*. Department of Education, Buffalo, New York, 1927
- DAWSON, EDGAR. *Teaching the Social Studies*. The Macmillan Company, 1927
- DE GARMO, CHARLES. *Principles of Secondary Education*, Vol. III, Ethical Training. The Macmillan Company, 1910
- DEWEY, JOHN. *Schools of To-morrow*. E. P. Dutton and Company, 1915
- DUNN, ARTHUR W. "Civic Education in Elementary Schools as Illustrated in Indianapolis," *Bulletin* U. S. Bureau of Education, 1915, No. 17
- GEORGE, WILLIAM H. *The George Junior Republic*. D. Appleton and Company, 1910
- HALL, G. STANLEY. *Educational Problems*. 2 Vols. D. Appleton and Company, 1911. Chapters V, VI
- HARTSHORNE, HUGH and MAY, MARK A. *Studies in Deceit*. The Macmillan Company, 1928.
- HARTSHORNE, HUGH and MAY, MARK A. *Studies in Service and Self-Control*. The Macmillan Company, 1929
- HUGHES, R. O. *Elementary Community Civics*. Allyn and Bacon, 1922
- JENSEN, C. N. Character Education Supplement to the Utah Course of Study for Elementary and High Schools. Department of Public Instruction, Salt Lake City, Utah, 1925
- JOHNSON, HENRY. *The Teaching of History*. The Macmillan Company, 1916
- LINDSEY, BEN B. and EVANS, WAINWRIGHT. *The Revolt of Modern Youth*. Boni and Liveright, 1925
- MANSON, GRACE E. Bibliography on Methods for Personnel Development of College Students. *The Educational Record*, Jan., 1930, pp. 1-42, The American Council on Education
- MARTIN, HERBERT. *Formative Factors in Character; A Psychological Study in the Moral Development of Childhood*. Longmans, Green and Company, 1925
- NEUMANN, HENRY. *Education for Moral Growth*. D. Appleton and Company, 1923
- NEUMANN, HENRY. "Moral Values in Secondary Education." *Bulletin*, U. S. Bureau of Education, 1917, No. 51
- NEUMANN, HENRY. "Teaching of American Ideals Through Literature." *Bulletin*, U. S. Bureau of Education, 1918, No. 32

- PHILLIPS, DANIEL E. and NEWLON, JESSE H. *The New Social Civics*. Rand McNally and Company, 1926
- PRINGLE, RALPH W. *Adolescence and High School Problems*. D. C. Heath and Company, 1922
- PRINGLE, RALPH W. *Methods With Adolescents*. D. C. Heath and Company, 1927
- ROBACK, A. A. *A Bibliography of Character and Personality*, p. 340. Science Art Publishers, Cambridge, Mass., 1927
- ROBACK, A. A. *The Psychology of Character*. Harcourt, Brace and Company, 1927
- SHARP, FRANK CHAPMAN. *Education for Character*. The Bobbs Merrill Company, 1917
- SNEDDEN, DAVID. *Civic Education*. World Book Company, 1922
- SNYDER, AGNES and DUNLAP, KNIGHT. "A Study of Moral Evaluations by Male and Female College Students." *Journal of Comparative Psychology* (June, 1924), 4 : 289
- STARBUCK, EDWIN DILLER, Chairman. *Character Education Methods: The Iowa Plan*, Character Education Institution, Chevy Chase, Washington, D. C., 1922
- STARBUCK, EDWIN D., and others. "Character Tests and Measurements." United States Bureau of Education, *Bulletin* No. 7, 1926
- SWIFT, EDGAR. *The Psychology of Youth*. Charles Scribner's Sons, 1927
- TRACY, FREDERICK. *The Psychology of Adolescence*. The Macmillan Company, 1920
- TUFTS, JAMES HAYDEN. *The Real Business of Living*. Henry Holt and Company, 1918
- WEMBRIDGE, ELEANOR ROWLAND. *Other People's Daughters*. Houghton Mifflin Company, 1926



INDEX

- Abbott, Edith, 331
- Ability grouping, 350; advantages, 350; disadvantages, 351
- Accelerated growth, Ch. V; general recognition, 56; table, 61; in plants, 79; marked at adolescence, 86
- Achievement, correlation with intelligence, 215, 216, 221, 223, 225; and environment, 339
- Activities, extra-curricular, 367; and moral education, 482
- Addams, Jane, 331
- Adapted questions, 366
- Adjustments, school, in adolescence, 9, 98
- Adler, Felix, 491
- Administrative problems, 228
- Adolescence, new era in, 1; profound changes, 7; psychological significance, 5; meaning, 46; recognition of, 46; variations in onset, 46; in history, 47; tribal ceremonies, 47; among Greeks, 48; among Romans, 50; present-day ceremonies, 50; tardy recognition in education, 51; in the home, 51; in N. E. A. programs, 51; recognition by G. S. Hall, 53; physiological development during, Ch. IV; anatomical development, 56; accelerated growth, Ch. V; heart and arteries, 60; lungs, 62; general bodily changes, 67; over-strain, 68; relation to disease, Ch. VI; maturing powers, 127; dominance of physical, 127; school adjustments, 98; education wrongly organized in America, 99; not time for drill, 126; and crime, 271
- Adolescent diseases: tuberculosis, 110; typhoid, 113; myopia, 114; nervous disturbances, 114
- Adolescent mental life: general consideration, Ch. VII; intellectual changes, 87; emotional characteristics, 89, 130; unfoldment of instincts, 125; philosophic interests, 129; scientific interests, 129; enlarged vision, 123; changing interests, 180; growing self-direction, 131; sophistication, 123; social traits, 131; religious awakening, 133; altruism, 133, 187; imitation, 137; language, 146; slang, 147; chumming, 152; imagination, Ch. IX; emotions, Ch. X; interests in reading, 186; intelligence, Ch. XI; mental deviation, Ch. XII; insanity, 259
- Adolescent, individualities, 344; needs, 374; faith in success, 120; moral education, 431
- Adventures and crime, 305
- Age, physiological, 71; of beginning crime, 281
- Age-grade tables, 342
- Ages, mortality, 106
- Altruism, in adolescence, 187; in school activities, 190
- Altruistic awakening, 133

- American education wrongly organized, 99
 Analogies of growth, 79
 Anatomical development, 56
 Antioch College, 151
 Anti-social children, 179
 Apathy toward crime, 326
 Aristocratic education in Europe, 239
 Arithmetic in elementary school, 37
 Army-Alpha tests of criminals, 297
 Army, Salvation, 276
 Art, and morality, 457
 Arteries, and heart, 60
 Assignments, flexible, 365
 Associations, teachers', 415
 Athenian, oath, 49; adolescent, 49
 Athletics, and morality, 462
 Attitude, hardened, 144

 Bagley, Wm. C., 238, 245, 355, 371
 Baker, Foundation, 331
 Baldwin, Bird T., 18, 45, 58, 59, 63, 67, 72, 73, 74, 85, 88, 91, 99
 Baldwin, J. Mark, 152, 154
 Balliet, Thomas M., 396
 Barnes, Mary Sheldon, 29
 Bathrick, H. A., 269
 Beatley, Bancroft, 419
 Beeler, Adam, 309
 Bennion, Milton, 491
 Benson, Charles E., 14, 50
 Bigelow, Maurice A., 74, 134
 Binet, Alfred, 215
 Birth of a new self, 95
 Boas, Franz, 18, 74
 Bobbitt, Franklin, 413
 Bode, Boyd H., 413
 Bodily proportions, 67
 Bolton, Edwin Latham, 413
 Bolton, Frederick E., 13, 132, 133, 134, 138, 148, 154, 161, 167, 168, 173, 178, 202, 225, 230, 235, 404, 412, 413, 491
 Book, W. F., 213
 Born criminal, 279
 Boston Public Latin School, 2
 Bowditch, Samuel, 18
 Boy Scouts, 199
 Brain, in preadolescence, 22; development, 64; changes through education, 65, 66; development and interests, 66
 Breckenridge, Sophonisba, 331
 Broadening vision, 95
 Brooks, Fowler D., 55, 94, 99, 134, 202
 Bryan, Wm. Lowe, 344
 Buffalo Plan of character education, 443, 492
 Burbank, Luther, 14, 46
 Burgess, Ernest W., 299
 Burk, Frederic, 18, 74
 Burk, Caroline Frear, 29
 Burnham, Wm. H., 55, 77, 99, 134, 270
 Burt, Cyril, 331
 Business, and Character, 418
 Butler, Nicholas Murray, 12, 413

 Cady, Samuel, 291
 Cameron, Edward H., 14, 50, 173
 Capacities and interests, 381
 Carnegie Foundation, on athletics, 464
 Carroll, Robert P., 203
 Causes of juvenile crime, 301
 Census, U. S. crime, 283
 Ceremonies, adolescent tribal, 47
 Changes in adolescence: physiological, 77; psychological, 77; emotional, 89; pronounced, 96
 Character, formative period, 5; education, Ch. XVI; new interest in, 415; and business, 418; re-

- lation to citizenship, 422; paramount aim, 421; Iowa plan, 442; Utah plan, 443; Buffalo plan, 443; through the curriculum, 447; through history, 476; through civics, 478; in fraternities, 490; in the home, 490
- Cheating in examinations, 142
- Child, Richard W., 273, 293, 324, 331
- Child study initiated, 53
- Child welfare paramount, 9
- Children's, imitation, 137; imagination, 158; emotions, 178; sorrows, 262
- Children, anti-social, 179; gifted, 353; moral education of, 431
- Chronicle, daily, of crime, 277
- Chubb, Percival, 187
- Chumming in adolescence, 152
- Church, Archibald, 250, 259, 270
- Circulatory system, in preadolescence, 22; diseases of, 110
- Citizenship, and character, 422; teaching required in Washington, 446
- City life and crime, 315
- Civic, welfare, 188
- Civics and character education, 478
- Civilization and school, 404
- Clark, Thomas Arkle, 491
- Classification, on basis of I. Q., 205; homogeneous, 350
- Clement, John A., 413
- Clouston, T. S., 25, 107, 110, 115, 117, 259
- Cobb, Margaret V., 208, 210
- Coe, Charles Francis, 322, 332
- Coffin, Joseph H., 428, 429, 491
- Coffman, Lotus D., 239
- College, who should attend? 239
- College marks, correlation with intelligence, 223
- Colvin, Stephen S., 173, 203, 224
- Comenius, John Amos, 165
- Complexes, failure, 265; success, 267
- Concrete, interest in, 129
- Condon, Randall J., 416
- Conscience, meaning, 428; socialized, 428
- Constructive imagination, 156
- Contracts, Dalton plan, 356
- Cooley, Edwin G., 16
- Coolidge, Calvin, 417, 420
- Coordinations in preadolescence, 24
- Correlation between: intelligence and achievement, 211, 215, 221, 223, 225; achievement in lower and higher schools, 216; different levels of achievement and intelligence, 216
- Counsellor, high school, 345
- Course, in moral education, 437
- Crampton, C. Ward, 72, 74, 86, 89
- Creative imagination, 159
- Crime, and youth, Ch. XIII; meaning, 271; amount, 272; expert statistics, 272; daily chronicle, 277; and heredity, 279; begun in youth, 282; statistics, 283-286; relation to: fun, 304; home life, 307; city life, 315; illiteracy, 315; truancy, 316; sex perversions, 316; ductless glands, 317; mental unbalance, 318; prevention through ideals, 321; waves, 322; juries, 323; legal tricks, 324; public officials, 325; popular apathy, 326; legal technicalities, 327; arousal of thoughtful, 331
- Criminal, stigmata, 280; the "born," 279; types, 293; intelligence, 294
- Crusaders, the modern, 1
- Cubberley, Ellwood P., 371

- Curriculum, over-standardized, 348;
and character education, 447
- Curve, normal frequency, 341
- Customs and manners, 147; and
morality, 426
- Dalton plan, 355
- Darwin, Charles, 335
- Davis, Calvin O., 99, 100
- Dawson, Edgar, 492
- Dearborn, Walter F., 134, 216, 221
- Deaths at various ages, 103, 106
- De Garmo, Charles, 434, 449, 454,
455, 492
- DeLand, Margaret; 96
- Delinquency, meaning, 272; causes,
301; in girls, 313
- Department of Superintendence,
416
- Determinism, 355
- Developmental diseases, 105
- Deviation, mental, Ch. XII; and
glandular conditions, 258
- Dewey, Evelyn, 372
- Dewey, John, 13, 185, 367, 435,
492
- Dickson, Gordon, 222
- Digestion, 21
- Direct moral education, 435
- Disease in adolescence, Ch. VI;
means disproportion, 101; de-
velopmental, 105; of circulatory
system, 110; unnecessary, 118
- Disproportion means disease, 101
- Dishonor, national, 275
- Dixon, Thomas, 470
- Doherty, Edward, 300
- Donaldson, Herbert H., 23, 65, 66,
74, 100
- Douglass, Aubrey A., 74, 100, 134
- Douglass, Harl R., 352, 372
- Drähms, August, 290, 332
- Dreams of youth, 171
- Drill in preadolescence, 38; not in
adolescence, 126
- Ductless glands and crime, 317
- Dunlap, Knight, 493
- Dunn, Arthur W., 45, 492
- Education, new era in, 1; new de-
mands, 1; recent development, 2;
adjustment in preadolescence,
33; wrongly organized, 99;
through imitation, 150; emotion-
al, Ch. X; over-intellectual, 176;
and emotions, 182; and Lange-
James theory, 196; aristocratic
in Europe, 239; over-education
say alarmists, 240; and insanity,
252; may prevent insanity, 266;
and uniformity, 348; determin-
ism in, 355; European trends in,
376; objectives of secondary, Ch.
XV; what is? 396; and character,
Ch. XVI; character paramount
aim, 421; methods in moral, 432
- Efficiency, training for, 406
- Elective system, 382
- Elementary school objectives, 35;
reading, 36; spelling, 36; arith-
metic, 37; music, 37; foreign
languages, 37; geography, 41;
history, 43; civics and citizenship,
44
- Eliot, Charles W., 169, 370
- Ellis, Wade H., 275
- Emotions and attitudes, Ch. X; in
preadolescence, 29; importance
of education, 175; of children,
178; and education, 182; Lange-
James Theory, 196; suppressed,
262
- Endocrine glands, 70
- Enrollment in secondary schools, 3
- Environment and achievement, 339
- Epilepsy, 252

- Era, new, in education, 1
 Ergographic tests, 63
 Ethical values in subject matter, 447
 Ethics, preadolescent codes, 31
 European education aristocratic, 239
 Examinations, cheating in, 141; over-standardized, 368
 Experience and imagination, 157, 166
 Extracurricular activities, 367
 Failure complexes, 265
 Failures, prevention of, 266
 Faith of adolescents, 120
 Feeble-mindedness, 253
 Fisk, Eugene, 118
 Fiske, John, 133
 Fitzpatrick, Edward A., 413
 Flapper *Americana novissima*, 121
 Flemming, C. W., 221
 Flexible assignments, 365
 Flexibility in education, 381
 Forbush, W. B., 133, 274, 332
 Foreign languages, 40, 388
 Foster, Wm. T., 220
 Frank, Glenn, 194, 242
 Fraternities, 490
 Freeman, Frank N., 204
 Fretwell, E. K., 221
 Freud, Sigmund, 262
 Freudian School, 27
 Froula, V. K., 287, 489
 Fun and crime, 304
 Functional insanity, 256
 Furbush, 256
 Garfield, James A., 412
 Gates, Arthur I., 82, 100, 126, 202, 372
 Gault, Robert, 173
 Geography, in preadolescence, 41
 George, Wm. H., 492
 Germany, crime statistics, 290
 Gesell, Arnold, 337
 Gifted children, special schools, 353
 Gillen, John L., 332
 Girls, delinquency, 311
 Glands, reproductive, 69; supra-renal, 70; endocrine, 70; and insanity, 258; ductless, and crime, 317
 Goddard, Henry H., 270, 294
 Goldmark, Pauline, 314, 332
 Government, pupil, 484, 487
 Gower, 116
 Gradual growth, 76
 Graves, Frank P., 50
 Greeks, recognition of adolescence 48
 Grey, Zane, 470
 Growth, accelerated, Ch. V; curves 58; saltatory, 76; specialized, 8
 Grouping, ability, 350
 Grover, Elsie J., 345
 Guidance, vocational, 401
 Guiterman, Arthur, 412
 Guyer, Michael F., 253, 257, 270, 332
 Gymnasia, 49
Gymnastae, 49
 Habits in preadolescence, 34; c study, 141
 Haddon, A. C., 47
 Hadley, Herbert S., 328
 Hagen, 117
 Hale, Edward Everett, 474
 Hall, G. Stanley, 17, 45, 48, 53, 56, 61, 64, 68, 74, 77, 78, 84, 103, 104, 108, 113, 118, 120, 131, 184, 259, 270, 292, 332, 492
 Hall, Winfield S., 47, 72, 75, 131, 193
 Hamilton, A. E., 134

- Hamilton, Enola, 332
 Hancock, John A., 29
 Handicapped, special schools for, 352
 Happiness, antidote to insanity, 267
 Harris, Wm. T., 2
 Hart, Hastings H., 332
 Hartwell, E. W., 103
 Healy, Byron, 317, 319, 321, 332
 Heart, and arteries, 60; irregularity of growth, 83
 Height, tables of, 18, 19; changes in, 57, 85
 Henderson, Charles R., 332
 Heredity, and crime, 279; and individual differences, 338
 Herrick, Cheesman A., 403
 Hertel, Axel, 108
 High school, pupils distribution, on basis of I. Q., 206; on Army Alpha scores, 208
 High school, who should attend? 239; counsellor, 345; and liberal culture, 394; rural, 399
 History, in preadolescence, 43; in adolescence, 389; in Washington, 447; and character education, 476
 Hollingworth, Leta S., 55, 135, 372
 Holmes, Oliver Wendell, 336
 Holmquist, A. M., 414
 Home making, 194
 Home, life, 307; and character education, 490
 Homogeneous classification, 350
 Hoover, Herbert, 417
 Hopkins, Mark, 241, 412
 Hormones, 69
 Howard, Delton, 173
 Howells, Wm. Dean, 149
 Hughes, R. O., 45, 492
 Hughes, W. Hardin, 208
 Hugo, Victor, 473
 Hulbert, Archie B., 287
 Hysteria, 116
 Ideals, political, 142; religious, 143; and crime prevention, 321; worth of, 398; of service. 402: should be changed, 406
 Illinois, crime records, 288
 Illiteracy and crime, 315
 Imagination, Ch. IX; reproductive, 156; constructive, 161; and sense perception, 157; in children, 158; in adolescence, 159; cultivation of, 161; in designing, 162; in cartooning, 163; in music, 163; in science, 167
 Imitation, Ch. VIII; popular meaning, 136; scientific meaning, 136; children's, 137; adolescent, 137; and study habits, 138; educational values, 150; in morality, 151; in Antioch education, 151
 Indirect moral education, 435
 Individual growth curves, 58, 59
 Individual differences, Ch. XIV; extent, 334; in mental life, 335; causes, 338; basis for determining, 340; distribution, 340
 Individualities, adolescent, 344
 Individual instruction, 349
 Individual projects, 366
 Industries, and practical arts, 385
 Influences, debasing, 195
 Inglis, Alexander, 135, 414
 Insanity, effects of glands, 258; table of first attacks, 117; misconceptions regarding, 250; defined, 251; relation to education, 252; prevalence, 252; relation of school, 255, 263; causes, 256; pathological type, 256; functional type, 256; characteristics of, 257; and adolescence, 259; phy-

- sical causes, 260; functional causes, 260; and superstition, 261; and sorrow, 262; and suppressed emotions, 262; and unsympathetic teachers, 264; and failure complexes, 265; prevention through education, 266; relation of sympathy, 267; and crime, 319
- Instincts, in adolescence, 125; basis of interests, 177; sex, 192
- Interests, and brain development, 66; in concrete, 129; relation to instinct, 177; changes in adolescence, 180; in reading, 186; in intelligence problems, 223; and capacities, 381; in practical, 385
- Intellectual, changes in adolescence, 87; education, over-, 176
- Intelligence, adolescent, Ch. XI; meaning, 203; what tests reveal, 204; distribution of scores, 206; interest in problems of, 223; correlation with achievement, 211, 215, 221, 223, 225; wide use of tests, 223; reliability of tests, 227; limitations of tests, 233, 235; is level becoming lower in high school pupils? 243; of criminals, 294
- Iowa, first department of education, 3; crime statistics, 291; plan of character education, 442
- I. Q., basis for classification, 206
- Irregular growth, 82; table, 85
- Irwin, Elisabeth, 372
- Italy, crime statistics, 289
- James, Jesse, 275
- James, Wm., 155, 196, 202
- Jensen, C. N., 492
- Johnson, Henry, 492
- Jordan, A. M., 221, 249, 372
- Jordan, David Starr, 370
- Judd, Charles H., 35, 372, 414
- Junior high school, 374
- Juries and crime, 323
- Juvenile criminals, 283
- Juvenile delinquency, 301
- Kavanaugh, Marcus, 320, 327
- Keller, Helen, 353
- Kelley, Truman L., 221, 222
- King, Irving, 45, 79, 93, 94, 100, 135
- Kirkpatrick, Edwin A., 174
- Klein, Arthur J., 238
- Koos, Leonard V., 75, 87, 88, 89, 97, 100, 135, 414
- Kotelnmann, Ludwig, 63
- Lancaster, E. G., 55
- Lange-James theory, 196
- Language in adolescence, 146
- Law breakers, 271
- Laws, on teaching morality, 444
- Lawes, Lewis E., 280, 332
- Leacock, Stephen, 348
- Legal tricks and crime, 324
- Legal technicalities and crime, 324
- Legality and morality, 425
- Levels, work at different, 364
- Lewis, Wm. D., 180
- Liberal culture, 394
- Lincoln, Gettysburg speech, 474
- Lindbergh, Charles, 420
- Lindsey, Ben B., 279, 304, 308, 334, 492
- Literature, in preadolescence, 35; in adolescence, 389; and morality, 465
- Lombroso, Cesare, 295
- Lowell, Lawrence A., 219
- Lough, James E., 372
- Low grade pupils, number overestimated, 245
- Lung capacity, 62

- Manners and customs, 147
 Marks, new reliance upon, 229;
 Bolton's investigation, 230
 Marks, Louis A., 372
 Marro, 259
 Marshall, Florence, 439
 Martin, Herbert, 492
 Massachusetts, Order of 1647,
 445
 Mathematics, moral values in, 450
 Maturity of powers, 127; schooling
 until, 377
 McDougall, Wm., 155, 202
 McGregor, A. Laura, 75, 90, 92,
 100, 135, 202, 365, 372
 McPhail, Andrew H., 224, 249
 Medullation, 23, 65
 Memory, in preadolescence, 26; of
 child and adult, 26; gems, 475
Mens Sana in Corpore sano,"
 384
 Mental, life of adolescents, Ch.
 VII; complex in preadolescence,
 25; reorganization in adolescence,
 88; pathology in adolescence, 91;
 horizon enlarged in adolescence,
 123; deviation in adolescence,
 Ch. XII; expansion and crime,
 301; differences, 335
 Mercier, Charles, 332
 Merrill, Lilburn, 316
 Metamorphosis in frogs and butter-
 flies, 81
 Methods, in moral education, 432
 Metlakhtla, 47
 Meumann, Ernst, 27
 Miles, Walter, 218, 221, 230, 249
 Miller, Harry Lloyd, 372
 Ministration to individual differ-
 ences, Ch. XIV
 Modern crusaders, 1
 Monroe, Paul, 100
 Monroe, Will S., 27
 Moore, Frank, 273
 Moral, attitudes in preadolescence,
 31; meaning, 423
 Moral education, Ch. XVI; of
 children and of adolescents, 431;
 methods, 432; direct and in-
 direct, 435; separate courses, 437;
 questions by pupils, 439; values
 in subjects, 447: mathematics,
 450; sciences, 451; art, 457;
 music, 459; athletics, 462; liter-
 ature, 465; memory gems, 475;
 history, 476; civics, 478; school
 activities, 482
 Morality, meaning, 423; and im-
 itation, 426; and legality, 425;
 and custom, 426; laws on teach-
 ing, 444
 Morbidity, meaning, 101; causes of,
 102; relation to mortality, 102
 Morgan, Arthur E., 151
 Morgan, Joy E., 5, 13
 Morrison, Henry, 126, 372
 Morrison, Wm. D., 290
 Mortality, relation to morbidity,
 102; tables, 103, 106
 Mosso, Angelo, 336
 Movies, 195
 Münsterberg, Hugo, 154
 Murchison, Carl, 296, 332
 Murdock, Katherine, 75, 100
 Muscular development, 63
 Museum, school, 167
 Music, in preadolescence, 40
 Myopia, 114
 Myerson, Abraham, 251, 259, 270
 National Education Association,
 13; adolescence in programs, 51;
 on character education, 416
 National dishonor, 275
 Nervous system in preadolescence,
 22

- Nervous diseases in adolescence, 114
- Neumann, Henry, 422, 423, 441, 455, 466, 472, 492
- New era in education, 1
- Newlon, Jesse E., 189, 493
- Newsstands, 195
- Norsworthy, Naomi, 27, 45, 155, 174
- Norris, Senator, 324
- Normal frequency curve, 341
- Numbers in high schools, 4
- Objectives of, this book, 12; elementary school, 35; secondary education, Ch. XV, 248, 380
- Obsessions and crime, 320
- Ogden, R. M., 155
- Ordinance of 1787, 445
- O'Shea, M. V., 47, 72, 137, 155, 301, 321
- Otis, A. S., 203, 221
- Over-education? 240
- Overstrain, 68
- Overestimation of numbers of low grade, 245
- Overstandardization, 368
- Pagliani, 64
- Parental standards, 310
- Park, Robert E., 299
- Parkhurst, Helen M., 356, 372
- Participation, and education, 482
- Pasadena high school, 208
- Patagonians, 47
- Pathological, conditions in adolescence, 91; insanity, 256
- Paton, S., 270
- Pearson, Karl, 215
- Pechstein, Louis A., 75, 90, 92, 100, 135, 202
- Peckham, George W., 18, 75
- Peterson, Frederick, 250, 259, 270
- Phillips, Daniel E., 189, 493
- Phillips, Frank M., 13
- Philosophic interests, 129
- Physical, growth, 18, 383; dominance in adolescence, 127; education, 384
- Physiological, age, 71; development in adolescence, Ch. IV
- Pillsbury, W. B., 202, 222
- Pinchot, Gifford, 411
- Pintner, Rudolf, 372
- Pitkin, Walter B., 242
- Plato, 49
- Play, in preadolescence, 29; lack of, 311, 314
- Political ideals, 143
- Pollock, 256
- Potter, Marion Craig, 87
- Practical arts, 385
- Preadolescence, Ch. II; importance of, 15; physiological characteristics, 17; decreased rate of growth, 18; a sensory-motor period, 24; sense perceptions dominant, 25; mental characteristics, 25; memory, 26; social attitudes, 29; moral attitudes, 31; codes of ethics, 31; in literature, 32; types of learning, 34; drill in mechanical combinations, 38; music in 40; foreign languages, 40; geography, 41; history, 43; civic and citizenship, 44
- Pre-school period, 5
- President, Taft, 328, 329; Coolidge 417; Hoover, 417; Lincoln, 474
- Pressey, Sidney L., 215, 255, 270
- Prevention, of failures, 266; of insanity, 266
- Principles, cardinal, 413
- Pringle, Ralph W., 31, 45, 55, 135, 372, 493
- Proctor, Wm. M., 206, 211, 221, 241

- Projects, individual, 366
 Promotion by subjects, 363
 Pronounced changes in adolescence, 96
 Prussia, tuberculosis in, 111
 Psycho-neural disturbances, 115
 Psychological changes, adolescent, 76
 Psychology, adolescent, 134
 Puberty, 46, 69
 Pubescence, tables, 73
 Pueblo plan, 360
 Public officials and crime, 325
 Pupil, in different grades simultaneously, 364; government, 484
 Questions, by pupils, 439
 Quetelet, 63
 Radossawljewitsch, P. R., 27
 Reading, in preadolescence, 36; adolescent interests in, 186
 Records of crime, early, 286
 Reed, Leslie I., 62
 Reed, Paul M., 414
 Regularity of tasks, 266
 Religious awakening, 133
 Reliability of tests, 227
 Reliance upon marks, 229
 Reorganization, mental in adolescence, 88; of secondary education, 376
 Reproductive glands, 69
 Reproductive imagination, 156
 Retarded, special schools for, 352
 Retardation, physical, 23; mental, 249
 Keymert, Martin, 202
 Rice, Emmett, 214, 215
 Roback, A. A., *The Psychology of Character*, 493
 Roberts, Alexander C., 225, 249
 Roman, recognition of adolescence, 50
 Ross, C. C., 221
 Rowell, Hugh G., 118
 Royce, Josiah, 148
 Rural high schools, 399
 Ryan, J. Carson, 369
 Saltatory theory, 76
 Salvaging waste in education, 248
 Salvation Army, 276
 Sandiford, Peter, 202
 Savorola, 148
 Scientific awakening in adolescence, 129
 Science and imagination, 167
 Scanlan, Kirkham, 308
 School adjustments in adolescence, 98
 School museum, 167
 School, youth's interest in, 182
 School, altruistic activities, 190; and insanity, 255, 263; special for gifted pupils, 353; why pupils leave, 378; adapt to capacities and interests, 281; and community, 383
 Sciences in high school, 389; moral values in, 451
 Search, Preston W., 361, 372
 Seashore, Carl E., 174, 268, 341
 Secondary education, recent, 2; objectives, Ch. XV; relation to junior high school, 374; reorganization, 376; general objectives, 380; holding power, 393
 Seggel, 113
 Self-direction, 131
 Self-government, 484
 Self-sufficiency, 122
 Sensory-motor period, 24
 Service, ideals of, 402
 Sex, development, 68; education, 69; instincts, 192; and home making, 194; perversions, 316

- Sharp, Frank Chapman, 424, 439, 493
- Sheldon, Henry D., 132
- Sitte, 426
- Sittlich, 426
- Skinner, Charles E., 372
- Slang in adolescence, 147
- Smedley, Fred W., 64
- Smith, Franklin O., 218
- Snyder, Agnes, 493
- Social, attitudes, 29; traits, 131; welfare, 188; stratification, 239
- Socialized conscience, 428
- Social sciences in high school, 389
- Socrates, 50
- Sophistication in adolescence, 123
- Sorrows and insanity, 262
- Spearman, C., 203
- Special schools for gifted, 352, 353
- Spelling, 36
- Spencer, Herbert, 414
- Snedden, David, 401
- Spirit of adventure, 305
- Standards, parental, 310
- Stanford-Binet tests, 91
- Starbuck, Edwin, 442, 493
- Statistics, of crime, 273; of insanity inadequate, 252
- Starch, Daniel, 229, 372
- State laws, on teaching morality, 444
- Stecher, Lorle I., 88, 91
- Stenquist, John L., 235
- Stevenson, John A., 372
- Stevenson, Robert Louis, 32
- Stigmata, criminal, 280
- Storm and stress period, 92
- Stowe, Harriet Beecher, 470
- Stratification, social, 239
- Subjects, variable numbers, 362; moral values in, 447
- Success complex, 120; prevent insanity, 267
- Sullivan, Louis R., 75, 100
- Superintendence, department of, 416
- Superstition and insanity, 261
- Suppressed emotions, 262
- Suprarenal glands, 70
- Symonds, Percival, 213, 220, 221, 223, 229, 249
- Sympathy prevents insanity, 267
- Swift, Edgar J., 295, 333, 493
- Talley, Alfred J., 324
- Tanner, Amy E., 155
- Taft, Wm. Howard, 328, 329
- Taylor-Jones, Louise, 118
- Teaching, causes of poor, 390
- Teachers, value of great, 404
- Terman, Lewis M., 45, 118, 186, 205, 206, 211, 249, 253, 255, 262, 270
- Tests, limitation of, 233; wide-spread belief in, 233; criticized, 235
- Thinking, preadolescent, 28
- Thomas-Tindal, Emma V., 135, 182
- Thorndike, Edward L., 75, 78, 92, 100, 125, 178, 202, 203, 234, 249, 337, 372
- Thomas, W. I., 333
- Thurstone, L. L., 223, 249
- Thyroid glands, 70
- Titchener, Edward B., 174
- Toga, praetexta*, 50; *virilis*, 50
- Toops, H. A., 223, 249
- Trabue, M. R., 236
- Tracy, Frederick, 55, 135, 202, 49
- Travis, Thomas, 279, 292, 296, 33
- Tribal ceremonies, 47
- Truancy and crime, 316
- True, Ruth S., 313, 332
- Tuberculosis, and adolescence, 110
table of deaths in Prussia, 111
in Washington, 112

- Tufts, James H., 493
 Tyler, John M., 21, 23, 45, 75, 82, 86, 100, 118, 135, 467
 Type, the criminal, 293
 Typhoid and adolescence, 113

 Unfoldment of instincts, 125
 Uniformity, in growth, 81; foe to education, 348
 Unsympathetic teachers, 264
 Utah, plan of character education, 443

 Variations, in growth (table), 85; individual, 335; desirable, 348
 Vierordt, 83, 84

 Waples, Douglas, 373
 Washburne, Carleton, 186, 373
 Washington, tuberculosis in, 112; teaching: of morality, 445; citizenship, 446; history, 447
 Waste, how salvage, 248
 Weight, tables, 20, 21; changes in, 57, 59; growth in, 85

 Wembridge, Eleanor R., 135, 493
 Whipple, Guy M., 87, 100, 135, 273
 Whitley, Mary T., 27, 45, 155, 174
 Whitney, Frank P., 269
 Wile, Ira S., 301
 Willebrant, Mabel, 327
 Willoughby, Barrett, 471
 Windes, Eustace E., 13
 Winn, Mary D., 301
 Wittenberg Symposium, 202
 Wood, Thomas D., 118
 Woodward, Calvin, 378
 Woollen, Evans, 418
 Woodworth, Robert S., 174
 World's Federation of Teachers, 415
 Writing and imagination, 164

 Younger brothers, 275
 Youth, visions of, 171; interested in school, 182; and crime, Ch. XIII
 Youthful delinquency, 301; causes of, 301