

A COMPARATIVE STUDY OF G. STANLEY HALL'S PHILOSOPHY  
OF THE PRACTICAL ARTS AND HIS INFLUENCE  
ON THE PHILOSOPHY OF INDUSTRIAL  
ARTS IN THE UNITED STATES  
TODAY

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## CHAPTER I

### INTRODUCTION

Basically democratic, the genetic philosophy of the late nineteenth and early twentieth century finds its most enthusiastic and strongest representative in G. Stanley Hall. The influence of his works--of which there are more than three hundred with a range of subjects that cover psychological, historical, anthropological, pedagogical, theological, medical, and others--is one of the most important contributions of all times to the philosophy of education and has been felt in every department of the school system, besides in all fields of activity in which human welfare is important both in the United States and abroad.<sup>1</sup>

Every presentation Hall has made on school curriculum refers back to fundamental instincts. He shows a devotion to the past and a readiness to consider its achievements in every field. That which has already taken form receives his profound respect. Nothing is unrelated to the subject he may have in hand. The old Greek philosophers are as much his contemporaries as are his colleagues who are engaged in

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<sup>1</sup>G. E. Partridge, Genetic Philosophy of Education, Preface.

laboratory investigations. Neither type of authority is left out of his preparation of a hypothesis or conclusion.<sup>2</sup>

With all these forces at work in a man's character and writings, it is inevitable that his influence should be felt not only upon his own generation, but the many generations to come. His achievements may not prove to be stable compounds, classics, which retain their first form for indefinite periods, but they will probably dissolve on discovering new needs. That is the way G. Stanley Hall would want his philosophy to react--making his greatest contribution only an influence.<sup>3</sup>

#### Statement of Problem

This thesis is a comparative study of G. Stanley Hall's philosophy of adolescence and philosophy of education, with emphasis placed on practical arts, to show how his philosophy has influenced the philosophy of present-day industrial arts in the secondary schools of the United States.

#### Delimitations

This study is limited to the philosophy of G. Stanley Hall concerning the practical arts and the earlier years of the adolescence of boys and the effect of this philosophy upon the philosophy of industrial arts in the secondary schools of the United States today.

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<sup>2</sup>F. A. Manny, "Old Teacher of the Western World," Survey, XLVIII (May 27, 1922), 327-28.

<sup>3</sup>Ibid.

## Definition of Terms

Philosophy.--Webster's Dictionary defines the word "philosophy" as the study or science of truths or principles underlying all knowledge and reality, or as a system of principles for guidance in practical affairs. The latter definition applies more appropriately to this particular study.

Adolescence.--The word "adolescence" is defined in the dictionary as the state or process of growing up from childhood to manhood or womanhood, or as the period of life between puberty and maturity.

Practical Arts.--Practical arts is a term used to describe such subjects as woodworking, metal-work, bookbinding, printing, leather work, clay work, jewelry making, mechanical drawing, and other related subjects when taught as a form of general education having for its chief purpose the development of or within the pupil through practice in the school shops with a variety of exercises and practical projects of personal value, of manual skill and an appreciation of good design and construction.<sup>4</sup>

Influence.--The word "influence" is used interchangeably with the word "effect" in this study. Either word designates the consequences of G. Stanley Hall's philosophy on the

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<sup>4</sup>Western Arts Association, The Terminological Investigation of Professional and Scientific Terms in Vocational and Practical Arts Education. (March 20, 1933), pp. 27-29.

practical arts and adolescence as applied to industrial arts today.

Industrial Arts.--Industrial arts is one of the practical arts, a form of general or non-vocational education which provides learners with experiences, understandings, and appreciations of materials, tools, processes, and products of the vocational conditions and requirements generally incident to the manufacturing and mechanical industries. These results are achieved through design and construction of useful products in laboratories or shop, appropriately staged and equipped, supplemented by readings, investigations, discussions, films, visits, reports, and similar activities characteristic of youthful interests and aptitudes in things industrial. The program includes such industrial representations as drawing and design, metal work, wood work, textiles, printing, ceramics, automotives, foods, electricity, and other similar units, either as separate offerings or in various combinations.<sup>5</sup>

Manual Training.--The term "manual training" is a phase of general education which provided a systematic form of instruction in the use of tools. Industrial arts is an outgrowth of manual training; therefore, the more modern term of industrial arts will be used in this study.

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<sup>5</sup>Ibid.

Secondary School and High School.--In his writings, Hall used the terms "secondary" and "high school" interchangeably. At the time that Hall did his work, the school had the four year high school plan.

Youth, Teenager, Adolescent.--In this study the words "youth," "teenager," and "adolescent" are used interchangeably to mean the period of life for boys between puberty and maturity.

#### Purpose of the Study

The predominate purpose of this study is to compare G. Stanley Hall's philosophy of adolescence and practical arts with the accepted philosophy of teaching industrial arts in the secondary schools of the United States today. With this study, a clearer picture of the background, beginnings, and principles of the philosophy of adolescence in connection with practical arts and industrial arts will be presented. The principles found to be involved in G. Stanley Hall's philosophy concerning the teaching of industrial arts in relation to adolescence can be used as a measuring stick for the purpose of comparing the superiority or inferiority of the present-day philosophy.

#### Source of Data

This study is a research problem based on materials gathered from books, magazine articles, bulletins, pamphlets, and lectures obtained from libraries of the city of Fort



Worth, Texas, Texas Christian University, Texas Wesleyan College, Texas State College for Women, and the North Texas State College. Instead of employing new ideas, the writer coordinates ideas and theories already known in order to show how and why the philosophy of adolescence of G. Stanley Hall has influenced industrial arts today.

#### Procedure

This study has been divided into six parts or chapters. Chapter one is primarily concerned with the statement of the problem, the delimitations of the problem, the definition of the terms that are employed, the prevailing purpose of the study, the source of data, and the procedure used in making the study. Chapter two is a study of the factors which influenced Hall's philosophy, such as his life, economical, social, and political conditions, prevailing theories on child study and adolescence, and general theories concerning the practical arts. The subject of the third chapter is Hall's general philosophy of education with emphasis on his interpretation of what education is, his philosophical basis of education, his fundamental principles of genetic psychology, and the general educational principles of his philosophy. The fourth chapter is a study of the theories of Hall's philosophy of adolescence and practical arts. Stress in this chapter is on Hall's interpretation of the meaning of the terms "adolescence" and "practical arts" and the relative importance of the philosophy of adolescence in teaching the practical arts.

Chapter five is a comparison of Hall's philosophy of adolescence in the teaching of the practical arts with the philosophy of industrial arts in the United States today. The conclusion, chapter six, gives a brief summarization of the study.

## CHAPTER II

### FACTORS INFLUENCING HALL'S PHILOSOPHY

In order to form a just estimate of the great work of G. Stanley Hall and to be able to assign him his proper place in the advancement of the "new idea of education," it is necessary that we know something of his life, of the economic, social, and political conditions making up his environment, of the prevailing general theories on education, on child study, on adolescence, and on practical arts.

#### His Life

Granville Stanley Hall who died on April 24, 1924, was born February 1, 1846, in Ashfield, Massachusetts.<sup>1</sup> His father was of impetuous temperament, his mother a rather submissive and devoutly pious woman. There were three children, all brought up on a farm. From the first, Stanley Hall was keenly interested in animals and nature. He was sensitive, both brave and timid, and very imaginative. He was essentially

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<sup>1</sup>There are no records of Hall's birth. T. H. Swift in an article, "Slewthing for the Birthday of G. S. Hall," in the April 13, 1946 issue of School and Society gives two dates, 1844 and 1846, that are usually accepted by most authorities. These authors point out that in Hall's own works, his birthday fluctuates. The writer of this study found no date of birth mentioned in Hall's autobiography, Life and Confessions of A Pychologist.

a lonely child, as such children often are, and this loneliness was to become pronounced as he grew older, developing a habit of isolation.<sup>2</sup>

Stanley Hall's early education was received in a country school. Later he attended Williston Seminary and after graduating from there he attended Williams College. He graduated in 1867 with a number of scholastic honors, and after graduation he spent the next year at a theological seminary in New York City. During this year he also worked for the city Missionary Society in the lower slum districts. Since however, he did not succeed in deciding his future vocation, he borrowed money with which to spend three years in Europe studying physiology, theology, philosophy, and a number of other related subjects. When he returned to New York he continued with his studies at the Union Theological Seminary from which he took his Bachelor of Divinity degree in 1817. After teaching English in Antioch College and later at Harvard where he received his doctor of philosophy degree in psychology in 1878, he again left for Europe for the definite purpose of studying experimental physiological psychology under Wundt. While in Europe for his second trip he married a Miss Fisher who was studying art in Germany.<sup>3</sup>

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<sup>2</sup>J. K. Hart, "G. Stanley Hall's Educational Adventure," Survey, LI (November 1, 1923) 181-83.

<sup>3</sup>Ibid.

In 1881 he was called to John Hopkins University to become professor of psychology and pedagogy. Here his real work and great fame began. Called from John Hopkins University in 1888, he undertook the organization of Clark University. Here he was both president and professor of psychology and education. This position he held until his retirement in 1920. Hall continued writing books and articles that won him both admiration and bitter criticism until his death April 24, 1924.<sup>4</sup>

#### Economic, Social and Political Conditions

In America there has always been one basic ideal that influenced all men, including G. Stanley Hall, more than any other thing. This is the democratic ideal. This influence is not only the general basis of all of Hall's philosophy, but has been a powerful factor in the economic, social, and political conditions that surrounded Hall during the years of his life.

The people of America are proud that the "democratic way of life" is the most vital and powerful force with which we must reckon in any venture whether it is statecraft, education, or philosophy. It is the highest and most characteristic ethical expression of the American people. Throughout the major part of their history as a nation, Americans have cherished the conviction that they were the foremost champions of human liberty and that they were engaged in a rather bold

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<sup>4</sup>Ibid.

experiment in social, economic, and political relationships conceived in terms of the interests of the ordinary man and destined to have meaning for the whole of mankind. Therefore, generation after generation the American people and their leaders proclaimed to themselves and the world their devotion to democracy--to the ideal of a land unmarked by class divisions and dedicated to the realization of the highest dreams of mankind. To all people, America was a land where all would be provided with opportunities for the fullest and richest development of their powers.<sup>5</sup>

The democratic idea fully played its part in the gigantic change in the meaning of economics that completely crystallized in Hall's life time. The original meaning of the word "economics" among the ancient Greeks, was household management. In colonial times in America the term could have been used in much the same sense. The ordinary family of the preindustrial age was practically self-contained. Consequently, except for the payment of a few stable articles of trade, economics was primarily a domestic matter. However, during the last decades of the eighteenth and the early decades of the nineteenth century, forces that had slowly been gathering overwhelmed the simple household and community economy. A family and its immediate surrounding community could no longer provide all the needs of a family. Districts, states, cities, and

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<sup>5</sup>George S. Counts, The Social Foundations of Education, pp. 9-30.

communities began to specialize. Various industrial inventions and improvements of transportation and communication made it profitable to make divisions of labor and specializations of function.<sup>6</sup>

Since Hall was born and reared in the country where change took place slowly, he grew up during the last phase of the economic change in America. Consequently, he knew first hand two entirely different phases of American economics. This was true also of the social aspects of his life.

By the time Hall was born, the preindustrial family was well into decay in the large cities. However, the vise of industrialism had not penetrated as far in the rural sections. As a result, Hall's early childhood was influenced by a mixture of social conditions. The changes which were taking place at this time were due primarily to westward expansion and the industrial revolution. The frontier however, still encouraged a high birth rate which continued to prevail in the United States until the latter part of the nineteenth century. Where land could be had for the taking, where life was simple and hard, and where labor was scarce, a large family was deemed an asset. However, the patriarchal, traditional family had been most affected by the absence of hereditary ranking and the general condition of equality that existed in the West.

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<sup>6</sup>Ibid., pp. 121-88.

Similarly, where women were scarce and property could be easily acquired, a marriage came to be regarded as the affair of only the individuals directly concerned. Consequently, since the founding of the Republic of the United States of America, the whole structure of American society has been transformed.<sup>7</sup>

That the government should escape the impact of the forces released by social and economic changes was of course impossible. As a matter of fact, while political institutions have resisted change with a great show of force, the very conception of government experienced a revolution during Hall's life time. In the beginning of their national existence, the American government's policy was "the less government the better" and "an individual knows his own interest better than an officer of the government." Gradually, nevertheless, the government began to intervene into more phases of economic and social problems. The two great wars, the Civil War and World War I, of Hall's life highlighted these changes.<sup>8</sup>

#### Prevailing Theories of Child Study and Adolescence

Not only did Hall grow up and live in a country with quickly changing economic, social, and political conditions, but he lived during a period of time that scarcity of labor

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<sup>7</sup>Ibid., pp. 79-120.

<sup>8</sup>Ibid., pp. 421-55.



and freedom of movement had latered the status of the child as well as the adolescent.

Before the industrial age the children, as well as the adults, were required to be industrious and obedient to the will of the family, even in such matters as education, choice of occupation, and selection of a companion in marriage. The child was also expected to use the family as his chief agency for providing recreation and social contacts. Whereas he relied on the family and consequently, parental authority for almost every major undertaking. The new era saw, however, the individual challenging the authority of the family group. As a result, parental and community control were weakened.<sup>9</sup>

Scarcity of labor and freedom of movement were the major factors which altered the status of the child in the home. Fathers in the east sent their children to work long hours in factories and children in the west had to assume responsibility at an early age. The early assumption of economic responsibility led to rapid maturity and emancipation from prolonged parental control. Boys became men and girls became women at a very early age.<sup>10</sup>

Before Hall, in the United States, child psychology was merely something to write about. Even in Europe, with the exception of Rousseau's Emile, and the contributions of

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<sup>9</sup>Ibid., pp. 89-92.

<sup>10</sup>Ibid.

Pestalozzi; and later that of Froebel, little interest was shown in children. The scientific study of the child began near the end of the nineteenth century while actual experimentation did not begin until the twentieth century. Previous to 1875, when Darwin's "Expression of Emotions" in Man and Animals appeared, not more than a dozen major studies of the child existed. Before the end of the century the increase was manifold. When Hall's "Contents of Children's Minds," was published in 1883, it created wide comment and was translated into many languages. This work proved to be a powerful stimulus to the study of child development and Hall was acclaimed the father of the child study movement.<sup>11</sup>

Before the time of Hall, there was little recognition of the importance of child study. The literature of all ages reflects the consciousness of adolescence. Even with primitive people, puberty ceremonies took place to emphasize the break between childhood and youth. The Greeks and Romans had simple ceremonies when a boy reached the age of fourteen. In colonial times early marriages were common. Therefore, before the time of Hall there was not a long period between the onset of puberty and the acceptance of the adult status.<sup>12</sup>

The great changes brought on by the industrial age added complications to the period of adolescence. Early marriages

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<sup>11</sup>R. Zelig, "G. Stanley Hall, Psychologist and Educator," Journal of Applied Psychology, XXVII (February, 1943), 85.

<sup>12</sup>Fowler Dell Brocks, The Psychology of Adolescence, pp. 1-4.

began to disappear. The youth of America began to stay in school longer. The adolescent who might have once governed himself and his children was now in a state approximating late childhood. Nothing in the early history of the race had prepared the people for the problems of semi-childhood and semi-adulthood.<sup>13</sup>

In 1894, Hall gave his own version of the study of adolescence at that time.

. . .The part of this field which here concerns us is the nature and needs of the ephebic or adolescent period, itself a great subject and imperfectly known, yet upon which the history of education and student life, confessional autobiographies, certain suggestive novels and other literature, dim and recently opened lines of psychol-pathology, and a few special investigations have shed much new light. . . . The great loss, however, comes from the fact that these studies are several years too late in this country, and the misfit is all the greater because during these years growth is most rapid. . .<sup>14</sup>

#### Prevailing Educational Theories

Just as child study and adolescence theories were undergoing a change during G. Stanley Hall's lifetime, so was the theories concerning education. When the industrial revolution ushered in the machine age and caused the transfer of industry from the worker's home to the small shop and factory, large

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<sup>13</sup>Ada Hart Arlitt, Adolescent Psychology, pp. 1-13.

<sup>14</sup>G. Stanley Hall, "Universities and the Training of Professors," Forum, XVII (September, 1894), 301.

groups of people were brought together into manufacturing centers, thus making possible the rapid growth of cities. All this made conditions favorable for the rise of public education. The result was that the stage gradually took over the schools which had been, from early times, under the direction and authority of the church.<sup>14</sup>

Prior to the revolution, the average man gained his training and education through an apprenticeship to some master of a trade or skill. This usually lasted seven years. However, with the coming of the factory system the differentiation of labor necessitated each man's performing a simple task day by day. He could become an expert in his specific task in a very short time. This cut down the period of apprenticeship from seven years to a few months. Shortening the period of apprenticeship released several years of youthful energy, which was diverted into the schools. The use of power machinery often required ingenuity and skill that created a demand for trained minds. Leaders were needed to push forward a new industrial organization. For the first time in history, the idea of educating the manual laborer began to take hold of the thinking in education.<sup>15</sup>

The philosophic theories on education in the nineteenth century were mostly Hegelian with a modification of Herbart here and there. Therefore, the schools were largely formal,

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<sup>15</sup>George Willard Frasier, An Introduction to Education, pp. 215-45.

<sup>16</sup>Ibid.

theoretical, and speculative. William T. Harris who had shown his remarkable ability as a practical educator in the superintendency of the school of St. Louis, and who, nevertheless largely based his educational principles and teachings on the Hegelian philosophy, was usually accepted as the American leader in educational philosophy. Therefore, when Hall began presenting theories on education, he naturally came into more or less sharp conflict with Harris and his many educational followers. Hall appreciated Harris and his philosophy, but to him it represented an outgrown stage of educational development, and he characterized Harris as "the captain of the rear guard."<sup>17</sup>

#### Prevailing Theories of Practical Arts

In the lifetime of Hall, the apprentice system practically disappeared, and the machine product took the place of the hand product. However, as the apprentice system disappeared, the American people were faced with the problem that the new economic life expected individuals to possess a training for which no provision was made in the general scheme of education. The boy who left school at fourteen or sixteen found no apprenticeship offered. Since he had no specific training, he suffered a tremendous waste of time and energy. Magnus Alexander of Lynn said of the problem of practical arts in

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<sup>17</sup>Harry Burnham, "G. Stanley Hall As A Teacher," School and Society, XX (September 27, 1924), 388.

the public schools:

The modern industrial conditions with their specializing tendencies have introduced complicated specializing machinery, which often can be manipulated only by operatives who have achieved skill in the handling of that particular machine. These conditions, however, have called for a new type of employee, one who can not only operate the complicated machinery, but who also understands the nature of the machine, how to doctor its ills, and to provide it with the auxiliary tool equipment that is necessary for the performance of some specific operation. To occupy such responsible positions, therefore, not only requires dexterity of hand, but also industrial intelligence, which the Massachusetts Commission on Industrial and Technical Education has defined as the mental power to see beyond the task which occupies the hand for the moment to the operations which have preceded and to those which will follow it,--power to take in the whole process, knowledge of materials, ideas of cost, ideas of organization which recognizes obligations.<sup>18</sup>

As a result of the new need of manual training in the school systems, several experiments were carried out. A sloyd school was organized in Boston in 1880. In 1877, through the efforts of John Runkle, the Massachusetts Institute of Technology included manual training in its system. In 1872, the St. Louis manual training experiment was started. This school differed from the others in that it offered instruction to boys under eighteen years of age. Using these schools as a basis, other schools experimented with the manual training idea. Some failed, but many more succeeded until manual

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<sup>18</sup>Ossian H. Lang, "Education A Life-Long Development," Educational Outlook XXXVIII (May, 1907), 106-15.

training developed into the industrial arts that we have in our school systems today.<sup>19</sup>

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<sup>19</sup>Arden H. Erickson, "A Study to Determine the Influence of Manual Training on Industrial Arts of Today" (Unpublished Master's Thesis, Department of Industrial Arts, North Texas State College, 1950), pp. 1-84.

## CHAPTER III

### HALL'S GENERAL PHILOSOPHY OF EDUCATION

#### What Is Education

Hall's conception of education is almost as broad as what biology calls environment. The school is not the only institution which educates the individual. Anything, from the first moment of life until the end, that affects the individual is education. Therefore, education, according to Hall, may be defined as the whole effect of environment.

Whereas, teaching, which is the conscious effort to shape the course of development, is only a part of a "plan" of the laws of nature. This plan, which is the purpose of teaching, is the development of the individual so that he may bring about the evolution of the race to a higher level.

The church, state, government, home, and all other institutions are to be measured by the ultimate standard of what they do to further the "plan". Education is, however, the main factor in the development to prepare for the next step of the advancement of the race. The success of any education can be judged according to the services which it performs in advancing the interest of mankind. For education to perform its functions by the means best suited, the science of education must not be derived from a single ideal on one



philosophy, but must use as its criterion a broad concept of many fields of human thought.<sup>1</sup>

### The Philosophical Basic of Education

All sciences, all practical activities, and all philosophies must contribute to the philosophy which underlines the principles of education. Educational theory must come from a broad knowledge of many or all fields of human thought and action because it deals with all the concrete, practical interests of life. Therefore, because education is such a broad, important phase of life it must have a new, a true philosophy. The educational philosophy of the past, which is too abstract, too formal, and too far removed from the practical life to meet the needs of all the different classes of children, must give way to a new philosophy. A true philosophy, regardless of its purpose, must meet certain tests according to Hall.

It must be a body of principles capable of furnishing deep and wholesome motives and beliefs to teacher and parent, and it must be a creed suited to the needs of effective practical living.<sup>2</sup>

It must also be optimistic, and it must grow out of instincts and feelings. It must be based on common sense and all the

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<sup>1</sup>G. Stanley Hall, "What is Pedagogical," Pedagogical Seminary, XII (December, 1905), 375-83.

<sup>2</sup>Partridge, op. cit., p. 7.

realities of life. Physical sciences must have their place in the new philosophy, and above all, it must inspire the young to love knowledge and to work to acquire it. A new psychology which meets these requirements, according to Hall, is the genetic psychology.<sup>3</sup>

#### The Fundamental Principles of Genetic Psychology

Genetic psychology takes for its basis the ultimate fact of the evolution of the mind and body of man, that results from the works of Darwin. Hall believes that in his genetic psychology the best things of this world are yet to come. He teaches that the animals of today may sometime go far beyond the present stages of mankind; and when they are in that stage, man should be on a remarkable high level of development. Everything and every event of history and the present is aiding in this development of man to his highest level. This mind and body Hall presents can not be studied in its final form, since it has not reached the completed end, but it must be studied only in its development so far. The mind is particularly important in the genetic psychology since Hall maintains that it holds the key to both the past and future, and knowledge of both of these are needed to understand the present individual. This mind has passed through stages as different from its present form as can possibly be

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<sup>3</sup>Ibid., pp. 7-13.

conceived. However, no two minds are alike since an individual mind is but an "infinitesimal fragment and expression of all the soul life in the world."<sup>4</sup> Therefore, Hall accepts the idea that many minds in many different situations must be studied before concrete theories can form. Hall also concludes that the truths sought by genetic psychology studies are to be found in the subconsciousness of the mind. The impulses, therefore, which move the individual to certain thoughts or certain actions are much more close to the "soul life" than are the conscious thoughts and actions.<sup>5</sup>

Another basic law of genetic psychology is the law of recapitulation. The law declares that the individual in his development passes through stages similar to those through which the race has passed. Hall teaches that a person from the earliest moments of life until maturity passes through or represents all the stages of life which the race has passed.<sup>6</sup> From this law Hall developed his theory of the importance of child study, since the child has more characteristics which link the individual with past development. The child, Hall believes, if left alone would recapitulate the race. It

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<sup>4</sup>G. Stanley Hall, "A Glance at The Phyletic Background of Genetic Psychology," American Journal of Psychology, XIX (April, 1908), 156.

<sup>5</sup>Ibid., pp. 149-212.

<sup>6</sup>Partridge, op. cit., pp. 27-31.

is largely the teachings of the adult and the influence of individual environment that obscure the recapitulatory steps.<sup>7</sup>

#### Physical Characteristics of The Adolescent

The great changes that take place in the physical characteristics of the adolescent actually represent some stages of earlier life according to Hall's law of recapitulation. The adult is one of the chief means of preventing the adolescent from standing still or moving backward toward these earlier stages of development; but to fully help the adolescent to strive for a level of higher development, the adult must comprehend the meaning of adolescence.

The majority of educators now accept the adolescence in boys as meaning the period of growth between puberty and sexual maturity. This usually takes about ten years. However, it is not entirely safe to place this on a chronological basis. The first stages of this period are marked by a rapid increase in the rate of growth of both height and weight. This growth is influenced by conditions that prevail in the environment. Disturbances in environmental conditions can readily cause arrest in growth and prevent natural maturity. Since adolescence is the period of greatest susceptibility to sickness--although the death rate is lower in the early teens than at any other

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<sup>7</sup>G. Stanley Hall, "General Survey of Child Study," National Education Association Proceedings and Addresses, 1918, pp. 332-35.

stage--the adolescent is in need of much protection, physical care, and moral and intellectual guidance. To give the young teen age boy the care he needs, adults need to know the normal characteristics of the adolescent boy.<sup>8</sup>

In Hall's work, Adolescence, he devotes much space to that which characterizes the physical growth of the adolescent boy. In the second chapter of the first volume of this work, he describes the growth of the parts and organs during adolescence. A brief summary of the development of the major parts and organs described by Hall is the following:

Bones.--Just before and after puberty there is a great increase in the growth of bones, and at the close of the adolescent period the skeleton is considerably extended and also much consolidated and joined together. This growth is accentuated in the larger and especially in the longer bones. This bone growth increase is the chief factor involved in the adolescent's change in weight and height.

Muscles.--The muscles increase in both length and thickness in pubescence, and they increase their width of attachment to the bone. At this point the muscular growth is faster than that of any other tissue. Sometimes the muscles grow in length more slowly than the bones and when this occurs, the adolescent has growing pains. The flexibility and clumsiness of movement of joints so common at this age is caused

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<sup>8</sup>G. Stanley Hall, "The Ideal School As Based on Child Study," Forum, XXXII (September, 1901), 33.

by the muscles growing more rapidly than the bones. Thus when muscular growth is out of proportion with bone growth, the result is the characteristic clumsiness of adolescent boys.

Heart and Blood Vessels.--Before puberty the blood vessels are large and the heart small, but during adolescence the heart undergoes a relative increase in size. The heart continues this growth to an advanced age, although it slows down after twenty-eight or thirty. The blood vessels are probably the most variable of all parts of the body. Indeed, the form, position and arrangement are so different that it is hard to tell what is normal. The arteries continue to grow in size, however, until at least the age of sixty. The pulse is faster during adolescence.

Lungs.--Although lungs continue to grow until old age, they have their most rapid growth in boys from the age of fourteen until the age of sixteen.

Brain.--During the pubertal period the number of cells that pass from the small undeveloped stage to full maturity is nearly equal to that amount functioning at birth, so that the number of active cells nearly doubles by the end of the fourteenth year.

Other Organs.--The majority of other organs also have a period of rapid growth, especially the sexual organs. Most other organs, the sexual organs included, taper off in the

speed of growth, but continue a fairly slow growth for many years.<sup>9</sup>

Two other prominent changes mentioned by Hall in his book, Adolescence, are in the voice and in the growth of hair. The voice usually makes a very gradual change. Sometimes a slight hoarseness is noticed for a few days or weeks, and then the voice is permanently lowered. Or, sometimes the voice is literally broken into three or even more parts with gaps between them, and then slowly the intervals are filled in.<sup>10</sup> Hairs first develop in the pubic region at about fourteen in boys. Next comes the hair development under the arm-pit and last is the beard development at the approximate age of eighteen.<sup>11</sup>

While the foregoing was written principally concerning boys, the same procedure may be followed except for the known fact that girls mature some two years earlier than boys.

#### General Education Principles

G. Stanley Hall uses his genetic philosophy as a basis for his general education principles. Although the chief function of education is to further the development of the race to the highest possible level, there is a definite place

<sup>9</sup>Ibid., pp. 51-128.

<sup>10</sup>Ibid., p. 30.

<sup>11</sup>Ibid., p. 415.

for individual interests inasmuch as more can be done for the future by the development of the individual's best abilities. However, when the individual reaches adolescence, education must instruct him so that upon reaching maturity he will use his physical and mental abilities to obtain a higher development. Since it is the function of all people to help with the welfare of the young, teaching is really an universal occupation. The majority of teaching is done in the school systems; therefore, progress in the educational program is the best test of the progress of civilization. Inasmuch as education is so important, its philosophy is the most fundamental of all philosophy. Thus, the environment that will make possible the fullest powers of mind and body must be sought. No educational system should merely serve one generation; it must contribute to the higher evolution of man.<sup>12</sup>

Hall gives three ideals that should prevail in educational philosophy. The first is concerned primarily with bringing the child into contact with the life that has already been. This enables the pupil to absorb the ancient traditions of Greece and Rome in such a way that he becomes a "cultured person," and is set off in a class by himself. This ideal is presented by the tendency of society to make schools in its own image. This group measures the efficiency of the school by its success in fitting the child for the domestic,

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<sup>12</sup>G. Stanley Hall, "Recent Advances in Child Study," Pedagogical Seminary, XV (September, 1908), 347-52.



political, and industrial life of the present time. Although this type of school is measurably better than the first type mentioned, it tends to use materials best suited to the adult instead of the child. It also leads to an over individualized and selfish life since the future concepts of development are lost. Whereas the first type of school goes backward in progress, the second ideal stands still in the present. This ideal which is based on the principles of genetic philosophy, teaches that the past and present are to be used only when they prepare the individual for the next stage of development. The children should be trained not only to maintain the present civilization, but to strive toward a higher level. This ideal maintains that the good of the past and present should not be lost but that the youth should have a self discontent for standing still.<sup>13</sup>

Hall believes that the grammar schools and the colleges and universities have adjusted to the third ideal of educational theories better than the high school. The complete educational system still needs to improve in many ways. Some of Hall's recommendations for betterment are as follows:

1. The natural environments that surround the pupils should be the basis of school curriculums. The pupils should know best how to use and improve their own environments, since in all probability they will live in that environment.
2. The teacher should provide a large amount of free conversation so the pupils are encouraged

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<sup>13</sup>G. Stanley Hall, "Social Aspects of Education," Educational Review, XXIII (May, 1902), 333-45.

to give their own ideas and to form generalizations from many opinions.

3. The pupil should never be compelled to say anything unless he wants to; since language is primarily a purely social organization.

4. The home and school should not be rivals, but they should work together in various organizations.

5. A good health plan is essential in all school programs.

6. A curriculum of plays and games can develop almost every good quality and should be used in every opportunity in the class room.

7. Schools should have a student self government system.

8. Pupils should have and know the purposes of their studies. To speak and write without acceptance and knowledge of a need, demoralizes the pupil.

9. Group activities should be emphasized. Nothing quickens thought so much as seeking and finding facts and common truths.

10. Nothing helps an individual to retain knowledge better than actually performing motor activity. This type of learning needs to be emphasized more in the present educational systems.<sup>14</sup>

The above are general needs of most educational agencies. The specific needs of the high school with which this study is most concerned will be discussed in the next chapter.

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<sup>14</sup>G. Stanley Hall, "Some Social Aspects of Education, Pedagogical Seminary, IX (March, 1902), 83-88.

## CHAPTER IV

### GENERAL PHILOSOPHY THEORIES OF ADOLESCENT PHILOSOPHY

G. Stanley Hall based his views of the needs of education not only on the needs of society, but also on the needs of the adolescent. He maintained that the following was the purpose of education:

. . .to train character, to suggest, to awaken, to graft interest, to give range and loftiness of sentiment of view, to broaden knowledge and to bring everything in touch with life.<sup>1</sup>

Further, he added that education during adolescence should embrace the following:

. . .seek to feed the interests and capacities peculiar to the adolescent age; it should aim to fill and develop mind, heart, will, and body rather than attempt to distill a budget of prepared knowledge decreed by professors who know no more of the needs of this age than teachers of other grades.<sup>2</sup>

To fulfill these aims in educating the adolescent, the materials of education and the methods of instruction should be vitalized and humanized. To accomplish the end desired, attention must be given to the significance of the physical and mental characteristics of youth since import changes

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<sup>1</sup>G. Stanley Hall, "High School and College Training," School Review, IX (December, 1901), 651.

<sup>2</sup>G. Stanley Hall, "Ideal School Based on Child Study," Forum, XXXII (September, 1901), 37.

in the adolescent take place between the ages of twelve to seventeen and are completed only years later when the adolescent receives from nature a new capital of energy and altruistic feeling. It is a physiological second birth, and success in life depends upon the care and wisdom with which this new and final in voice of energy is husbanded.<sup>3</sup> As adolescence slowly supervenes and boyhood is molded, the method of freedom and appeal to interest and spontaneity should be increased.<sup>4</sup> The best things are "springing up in the human soil." If there is any genius or talent, they begin now to be flung forth.<sup>5</sup> For education to meet the needs of the adolescent and to cultivate the new interests that are developing inside him, the adults who come in contact with him must know how best to help him. In the third chapter of the present study, Hall's definition of adolescence and the physical characteristics of the boy adolescent were discussed. However, there are many other qualities beside the physical that characterize this period. Adolescence is not only the age of rapid physical growth, but the age of the development of the feelings and emotions. Fear, pity and sympathy, love, envy and jealousy, anger, excitement, pleasure and pain, curiosity and interest,

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<sup>3</sup>G. Stanley Hall, "Youth, Its Education, Regimen, and Hygiene, p. 359.

<sup>4</sup>G. Stanley Hall, "How Far Is The Present High School And Early College Training Adapted to The Nature and Needs Of Adolescents," School Review, IV (December, 1901), 649.

<sup>5</sup>Ibid., p. 650.

and selfishness and generosity are either now being born or developing new intensity. To understand the adolescent, his feelings and emotions must be understood. The following is a summary of each one as Hall explains them in relation to adolescence.

Fear.---One of the great fears of adolescence boys is the result of sex ignorance. Because of the many changes that take place in the sexual organs, the teen age boy often thinks that his development is abnormal.<sup>6</sup> As to the other types of fears, in general, the physical fears decline and social fears increase as do those in the moral and religious realm. Many fears of childhood are toned down in respect and reverence; also, an increasing proportion of dreads are of the mind rather than of a physical nature. Two examples of the changes from childhood to adolescent fears that are given by Hall are (1) fear of being lost passes over to fear of losing the points of the compass, and (2) fear of great animals, real and imaginary, diminishes and that of bugs and creepy things is augmented with the new dermal sensations for minimal contact.<sup>7</sup> Bashfulness, giggling, chewing the nails, and awkwardness in many forms, Hall believes, is caused by a fear of not belonging. To overcome this fear and the others, Hall emphasized the importance of education in helping

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<sup>6</sup>G. Stanley Hall, Adolescence, Vol. I, pp. 451-53.

<sup>7</sup>Ibid., Vol. II, p. 370.

develop character which is the basis of self-confidence and self assertion.<sup>8</sup>

Pity and Sympathy.--Few emotions undergo a greater increase of both depth and range at adolescence than does pity and sympathy. Although these feelings are not highly developed in children, they become "exquisite" in youth. Nearly all of the childhood qualities of sympathy and pity gain power, and a vast number of new ones appear. Tenderness of heart should now have surpassed the younger callous ways. One form of sensitiveness, caused by sympathy common in adolescents, expresses itself in an extreme reluctance to differ from the opinions and purposes of others, especially adults.<sup>9</sup>

Love.--Hall divided love of the opposite sex into four stages. An infinite form of love takes place between boys and girls under the age of eight. In this stage it is transparent, with no self-consciousness, and appears in fondness for keepsakes, especially edibles, and often in embraces and kisses. Jealousy is often well developed, and there is no mutual shyness or fear of ridicule between the little boys and girls. Later between the ages of eight to twelve or fourteen, Hall describes two other stages of love. One of the stages is between children of approximately the same age. There is now an acute, conscious interest in the opposite sex.

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<sup>8</sup>Ibid., pp. 371-73.

<sup>9</sup>Ibid., pp. 373-76.

There are still gifts, but now they are given secretly and sometimes anonymously. There is usually no pairing off and teasing may prompt a denial of his like of the other child. In school these boys and girls like to sit or stand together and seek contact that must appear to be accidental. Showing off at this stage is the boy's chief means of showing his "liking". The other type of love at this age is the great tendency to love older persons. Boys in the "grades" often select a young woman teacher to idealize. If the adult handles this affection right, a wholesome relationship may be achieved. The fourth state which begins with puberty and ends a little before maturity, is first characterized by a great tendency of the sexes to draw apart for a season. The new interests that now appear are many, strange and sudden. Modes of life and interests cause the boy to become a little ashamed of girl associates. However, this tendency slowly disappears and the adolescence begins to become actually sexually conscious of the opposite sex. The fifth stage is the "real age of love in the full proper sense of the word." This stage usually results in marriage and family life.<sup>10</sup>

Envy and Jealousy.--Envy and jealousy are strong factors in the teenager's life. Puberty marks the age of the great intensification of rivalry for the favor of the other sex. It is with the adolescent's first love that jealousy and envy

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<sup>10</sup> Ibid., Vol. I, pp. 101-11.

become intense. Envy and jealousy according to G. Stanley Hall are

. . . probably the most direct expressions of the struggle for survival and competition for all that is best in the world.<sup>11</sup>

They are often the beginning of cruelty and self-consciousness in the adolescent. Because these two emotions are so strong, teenage friendships are seldom permanent.

Anger.--Anger undergoes characteristic changes in teens. In boys the "fighting instinct," if unchecked, is more intense and has new motives. Anger grows more inward, however, and the effects are less in the "somatic" and more in the "psychic sphere." Anger tension is often controlled by prolonged physical exercise. Some of the chief causes of anger in adolescence according to Hall are the thwarting of purposes and expectations, invasions or repression of the self, a sense of injustice, and limitations of freedom.<sup>12</sup> Anger often seems spontaneous because the adolescent can not analyse all the new and complex feelings attached to it. He may become angry because he is misunderstood or because he is in the presence of someone who is distasteful to him. Even in the midst of the greatest anger, an almost independent psychosis of philosophic relation is often carried on. Sarastic things are thought of, but they are often not said. Anger is often

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<sup>11</sup>Ibid., p. 357.

<sup>12</sup>Ibid., Vol. II, p. 396.



"nursed" with schemes of revenge. Anger of this type is really an expression of egotism and self feeling.<sup>13</sup>

Excitement.--Youth loves intense states of mind and is very fond of excitement. For a reason that is not fully understood, the whole "psycho-physic organism of the adolescent is expanding and stretching out of excitement." This age, Hall states, is "a natural inebriation without the need of intoxicants." Athletic enthusiasm, the disposition of high school youths to yell and "paint the town", to indulge in boisterous laughter, or some new fad are some of the many ways of meeting the need for excitement. If the youth with the help of his adults can not meet this need, he may seek it in sex, drink, or other undesirable ways. For hours, weeks, and perhaps months he may be involved in activities that demand over energetic actions. Then for weeks as a result, he may be "limp, languid, inert, indifferent, fatigued, sleepy and lazy." Adolescence is the age of extremes in energy volume.<sup>14</sup>

Pleasure and Pains.--Closely connected with adolescence is pleasure and pain. When the fluctuations of the moods of children is rapid, these fluctuations are slower in the adolescence. It takes long periods of time for youths to recover from pleasure and pain. While children think of only the present in relationship to pleasure and pain, adolescents

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<sup>13</sup>Ibid., p. 370.

<sup>14</sup>Ibid., pp. 73-74.

consider the past, present, and future. Youth loves pleasure and every joy of life to them takes a new form. The genius for making every event in life pleasure has never been so great as now. This principle is also true of pain. Young people often weep and are depressed when even they do not fully understand why. Ridicule is now a powerful weapon to produce pleasure or pain. Adolescent fun often takes the forms of jokes on such things as sacred subjects, sex, blunders of others, and teachers.<sup>15</sup>

Curiosity and Interest.--Of curiosity and interest, Hall has this to say:

Curiosity and interest are generally the first outcrop of intellectual ability. Youth is normally greedy for knowledge, and that, not in one but in many directions. There is eagerness, zest, enthusiasm, which inspires corresponding activity to know that and only that which is of the highest worth. Wherever a new mine of great and fruitful discovery of truth is opened, a new field of activity, or new motive, of self sacrifice are made operative, there youth is in its element. It is the age of questioning, exploration investigation, testing ideas, men, and the world. Exception is at its best and the impulse to be ready for any new occasion is at it strongest. Now for the first time it is readily felt that knowledge is power, and the noetic fever some times becomes too hot for the convenience of others, for conventionality, the routine of life, or even for health.<sup>16</sup>

However, Hall goes on to say that some teenagers cultivate indifference in obtaining knowledge. When teachers meet this

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<sup>15</sup>Ibid., pp. 76-77.

<sup>16</sup>Ibid., pp. 85-86.

problem in the schools, these adolescents should have a wise and careful diagnosis of their problem.<sup>17</sup>

Selfishness and Generosity.--Selfishness and generosity are also seen in the extremes of adolescents. Generosity is more in evidence than ever before, but selfishness and generosity often go hand and hand in an individual. Other people's rights and possessions are often rudely ignored. However, the adolescent may give much consideration that entails many hardships to the same person.

Some of the other characteristics of adolescence pertain to good or bad conduct, social instincts, sensitiveness and cruelty, wisdom and folly, knowledge and doing, and self feeling. The following is a summary of Hall's ideas concerning each of these.

Conduct.--Closely associated with the above are the alternations between good and bad conduct. Conscience is beginning to have a new importance, and because of this new role, some times adolescent boys seem so good that they are not human. Then again, some petty and undreamed of meanness will surprise the adult. At this age, crime and religion are having a constant fight. As statistics show, the age of most frequent conversions to true religion is precisely the years of the largest percentage of first commitments to houses

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<sup>17</sup>Ibid.

<sup>18</sup>Ibid., pp. 363-448.

of detention for crime.<sup>19</sup> Teenagers seem to be fairly consistent in the matter of religion and crime.

Social Instincts.--Some adolescents find the need to be completely alone once in a while, but all of them have a need to be with others or in a gang. The school should provide for this gang need by having various school class organizations.

Sensitiveness and Cruelty.--Many adolescents have not yet developed a kindness for humans. They may be very gentle to pets while utterly hardened to the suffering they might inflict on a fellow person.

Wisdom and Folly.--The teenagers may at times seem old beyond their years. They will often have an attitude of mind that seems to benefit by the experiences of a life time. At other times they are very childish and "down right silly" in their actions.

Knowledge and Doing.--Although at this stage there is usually a desire for reading and learning at an extreme, this desire may easily change to a need to achieve by "action" doing only. They may now rather cultivate muscle or work at an occupation.

Self Feeling.--Self feeling is increased at adolescence. Vanity or a sense of personal attractiveness is often suggested in "swagger" ways, being in conspicuous places; talking, acting, or dressing to attract attention; and physical

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<sup>19</sup>Ibid., p. 83.

aggressiveness. Youth wants to be respected, consulted, taken into confidence, and treated as grown men. This new sense of self may cause the adolescent to resent advice from parents and teachers, and sometimes the teenager will actually contradict the adults. However, where at one time the youth may be full of vanity, another time all the above characteristics may indicate that he is unsure of himself. This aggressiveness that he shows may be a way to cover the humiliation of his limitations. Because the adolescent is so aware of himself, manners, care for health, and neatness of person begin to be important at this stage.

As can be seen by Hall's descriptions of what characterizes the adolescent, adolescence is the age of extremes. The youth is seldom lukewarm about anything. In his views or ideas he is usually either very conservative or very radical. He will be aware of only what his senses tell and show him, or he will be aware of only the facts that his friends have told him or that he has read in a book. He may be eager and aware of everything that is happening around him or he may be lost to reality and be in a land of only day dreams. Because of the extremes of the adolescence period, the high school must provide opportunity for all types of interests, give special attention to the different abilities and inclinations, keep the youth in touch with the actual meaning of life, and at the same time give the adolescent training in a cultural aspect.<sup>20</sup>

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<sup>20</sup>Ibid.

Hall believes that too many educators have the idea that preparing a youth for college and for life means the same thing. He thinks that actually high school training for college means untraining for life. The present high school is too clerical, sedentary, bookish, and arbitrary to prepare for life. Almost nothing of the current high school courses appeals to the best powers of the youth, and the subjects that are perhaps best suited for preparation for life are likely to be taught in such a way as to rob them of all educative value. The logical order and divisions of subjects are usually based on what the college needs. It should be based instead on the needs of the adolescent.<sup>21</sup> Some of the present needs for a better high school program that are presented by Hall are given below:

1. It is discouraging for youths when they know that they are passed on memory facts rather than on actual application of these facts. Therefore, the majority who leave school do so at the end of the first year.

2. The boys of this age are not able to differentiate their sex because they are always in classes with both sexes. At this age there is a definite need for boys to be by themselves.

3. Too many tasks are assigned by teachers when at this age there is a need for some free time.

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<sup>21</sup>G. Stanley Hall, Educational Problems, Vol. II, pp. 634-66.

4. Often the pupil revolts against feminine teachers by despising student life. Adolescent boys need to have associations with grown men.

5. An extensive and excessive use is made of text books.

6. There is no need at this age for recitations or drills.

7. Students need to be given problems to look up and solve themselves without the teacher dictating how it should be done.

8. The school and the teachers make no effort to obtain and keep the interest of the pupils.

9. As a rule, the teachers are not interested enough in the psychology of adolescence to know what is normal behavior and what is not.

10. Each student should be studied and made a special problem and the work adapted to his nature and needs.

11. Too much stress is put on accuracy when, because of the characteristics of adolescence, work can not often be exact or precise.

12. In teaching, large conceptions rather than details should be presented.

13. Examinations should have little space in high school education.<sup>22</sup>

In view of Hall's writing, it seems that the high school actually has four purposes. First, physical well being should

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<sup>22</sup>G. Stanley Hall, Adolescence, Vol. II, pp. 322-527.

not merely mean gymnastic exercises, reading books on physiology or by listening to lectures on hygiene; but the adolescent should actually experience the conditions of wholesome living. He should acquire the habits of health by an active interest in nature, outdoor sports, and other forms of activity in social life and social institutions. Second, the teachers need to do everything possible to assist the youth in the choice of the vocation in which he is most likely to succeed. The high school should actually give some vocational instruction for those who are not going to college. Third, the youth needs personal culture by receiving help and instruction in subjects that have a direct bearing on the problems of life. Fourth, the youth should have social efficiency by being able to cooperate and promote the common welfare.<sup>23</sup> Emphasis should be placed on preparing for the advancement of and service to the race because

Service is the highest criterion of the worth of lives. We are learning that, whether in history or in romance, the name that shines with the fairest and brightest light and lasts longer is that which has done most service. The great moment in great lives are those when the supreme choice is to be made between self and the welcome of others, and the best criterion of supreme manhood and womanhood is when the latter prevails. More and more enlightened public opinion is coming to distinguish between those who live and die for themselves and those who live and die by the gospel of helpfulness.<sup>24</sup>

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<sup>23</sup> Hanson A. Mackie, Education During Adolescence, pp. 14-18.

<sup>24</sup>G. Stanley Hall, Education Problems, Vol. II, p. 668.



### General Educational Philosophy of Industrial Arts

G. Stanley Hall believes that agriculture, manufacture, and commerce are the bases of natural prosperity; and since all professions and institutions are becoming more and more dependent on these, industrial and manual training need to have a firmer place in our educational system. Manual training, however, can not be definitely divided from industrial education and in the future will probably be absorbed by it. At present, manual training is defined by Hall as motor education without reference to specialized occupations; industrial education is defined as motor education with reference to specialized occupations. Therefore, manual training meets two great needs in performing its function--aiding muscular development and helping to retain knowledge since it is easier to learn by doing.<sup>25</sup>

Of the philosophy of industrial, practical, arts, Hall has the following to say:

This work meets the growing demand of the country for a more practical education, a demand which often greatly exceeds the accommodations. The philosophy if such it may be called, that under lines the movement, is simple, forcible, and sound, and not unlike Pestalozzi's Keine Kenntnisse ohne Fertigkeiten, in that it lessens the interval between thinking and doing; helps to give control, dexterity, and skill in industrial trend to taste; interests many not successful in ordinary school; tends to the better

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<sup>25</sup>G. Stanley Hall, Youth: Its Education, Regimen, and Hygiene, pp. 29-40.

appreciation of good, honest work; impacts new zest for some studies; adds some what to the average length of the school period; gives a sense of capacity and effectiveness, and is a useful preparation for a number of vocations. These claims are all well founded, and this work is a valuable addition to the pedagogic agencies of any country or state.<sup>26</sup>

Therefore, as compared with most school work, it has the advantage of being definite and objective. Instruction and criticism can be precise, and the children at once see their own failures and limitations since there is nothing he can conceal.

Industrial arts, Hall believes, should not only have a definite place in high school, but it should also be interlocked with all the subjects in the grammar school. For example, in a "sand-pile" community which was involved in an experiment in child study, Hall had academic work and practical arts interlaced so that they helped each other to produce the best results. He found that where the children actually constructed a community patterned after their own, they benefited much more than just by using verbal facts only. When he discussed some of the specific results of the "sand-pile" experiment he stated that "prominent among the benefits the sand-pile community has brought the boys is the industrial training it has involved, particularly in wood work."<sup>27</sup>

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<sup>26</sup> Ibid., p. 35.

<sup>27</sup> G. Stanley Hall, Aspects of Child Life and Education, The Story of A Sand Pile, p. 147.

The trend of most administrators, however, states Hall, is to consider industrial arts only in the high school. Although Hall believes that it should be used in all divisions of the school, he agrees that there is a definite need for industrial arts in the high school or adolescent period.

Adolescence is the golden period for  
acquiring the skill that comes by practice,  
so essential in the struggle for survival.<sup>28</sup>

However, considered from Hall's genetic point of view, the majority of the present industrial arts programs seems narrow and inadequate. The following is a summation of the chief errors of the secondary school as presented by Hall:

1. The work required offers little muscular development for the legs, back, and trunk.
2. The courses are too rigid and inflexible to meet the needs of the different pupils.
3. Although the methods of industry have undergone vast changes since the beginning of the industrial age, the methods employed in manual training have not met these new changes.
4. The industrial arts system has not adopted general fundamentals that would help pupils going into all occupations instead of only a few.
5. A committee has not been set up to study the condition of this field and make the recommendations necessary to improve the whole program.

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<sup>28</sup>G. Stanley Hall, Adolescence, Vol. I, p. 171.

6. The processes used are too complicated and need to be made simpler by using only the basic operations.

7. The teacher expects the students' work to be too exact for a boy of this age.<sup>29</sup>

Hall also believes that a majority of the industrial arts programs include only two materials--wood and iron--and that these programs usually focus only on one goal--to emphasize skill in technical processes. Although the courses in wood and iron work are rich in technical skills, they only help pupils going into a limited number of occupations. The wood courses emphasize the occupations of joinery, carpentry, and cabinet making, while the courses in iron makes an excellent school for blacksmiths, mechanics, and machinists. To focus on skill in technical processes with no other reference to the object made is an almost tragic case of the sacrifice of content to form, which in all history has been the chief stigma of degeneration in education.<sup>30</sup> For the industrial arts courses to meet the needs of its pupils, Hall insists that they must have four goals instead of one. These four goals are:

1. Ability to grasp an idea and embody it.
2. Power to utilize all nerve, and a wide repertory of methods, devices, discoveries, machines, etc.

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<sup>29</sup>Ibid., pp. 174-78.

<sup>30</sup>G. Stanley Hall, Youth: Its Education, Regimen and Hygiene, p. 58.

3. Knowledge of the history of the craft.
4. Skill in technical processes.<sup>31</sup>

Always keeping the four goals as his basic principles in planning an industrial arts course, Hall states that in the lower grades a course should begin with rough work that includes using simple tools and obtaining much practice in measuring. In connection with this, some elementary mathematics should be introduced. Then might come the work with the wooden square and compasses. After that such work as the mortising of cross sticks--as in the making of kites--might be included. The work should continue to progress with each step leading to finer and more skillful work. All this work, however, should be connected with the needs and interests of the child and should be suited to his age of motor development. The construction of toys should be the center of most of the work with small children since that type of construction would develop the most interest. Also many primitive activities such as weaving might be introduced. At this age such things as tops, magic, guns, photography, glass blowing, puppet theaters, plumbing, the whole field of inventions, and simple problems of biology, physics, and chemistry could form a nucleus of interest and study.<sup>32</sup>

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<sup>31</sup>C. Stanley Hall, Adolescence, Vol. I, p. 176.

<sup>32</sup>C. Stanley Hall, "Some Criticisms of High School Physics, Manual Training, Mechanic Arts--High Schools with Suggested Correlations," Pedagogical Seminary, IX (June, 1902), 197-204.

If possible, in the high school, the work of industrial arts should center around the scientific work of the school --chemistry, physics, and biology. The important principle that is involved here, continues Hall, is that scientific instruments are more generic than machines of any kind, and the making of them requires more fundamental principles. They deal with basic laws of motion and not with special principles. The making of kites, the study of photography, and similar problems may be of interest. Arts and crafts could be worked in well at this stage of motor development. However, any activity should not be too technical or too exact, but self-expression in a natural and easy way will be best emphasized. Thus, interest will be broadened instead of becoming more narrow. The educator should use as his guide the need and nature of the youth instead of the principles of the product.

Manual training has many origins; but in its now most widely accepted form--industrial arts--it came to us more than a generation ago from Moscow.<sup>33</sup> However, at present, writes Hall, the sloyd system, a movement organized in Sweden a quarter of a century ago, shows the most upward advance in purposes and methods. The purpose of industrial training according to the sloyd system is to teach "both sexes not only to be useful but self active and self-respective and to revere

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<sup>33</sup>G. Stanley Hall, Youth: Its Education, Regimen and Hygiene, p. 35.

exactness as a form of truthfulness."<sup>34</sup> It assumes that some students can only understand what they make. It aims to produce wholes rather than parts and to develop motor control in all classes of people instead of only the lower classes. The sloyd system tries to correlate several exercises and tools so that each step will involve a new developmental part that will chain it to the next logical step so that these steps go parallel with motor development in the child.<sup>35</sup>

The sloyd work, for example, is centered too much upon accuracy and emphasizes excessively the feature of training. Too little emphasis is on the usefulness and interest from the child's point of view. His teachers are too often formalists. Since they try to lead the child through a number of carefully graded steps, their systems are open to the same criticism of all logically arranged curriculum. They put too much stress upon method and formal discipline, train to limited areas of the brain, and do not represent adequately the three hundred manual occupations of the present industrial life. They have not begun with the study of the fundamental types of human activity, and they have used too limited a range of materials. Therefore, they have failed to take advantage of all the manual and natural interests of a child and with no basic interest they find it almost impossible to stimulate the pupil so that

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<sup>34</sup>Ibid., p. 40.

<sup>35</sup>G. Stanley Hall, Adolescence, Vol. I, p. 47.

his interests are broadened to include other subjects, such as science. Therefore, the sloyd system has a modest but important place in the development of industrial arts. Educators should take its best elements and strive to correct its many limitations. The sloyd system has served its purpose, and therefore, it should make way for further advancement as that is the only way higher development of the race can be achieved. Future educators of the industrial arts movement must find methods that will arouse the natural interests, extend toward broader mental training and practical issues of life, and develop the pupil as a distinct individual. If these are considered, Hall believes that the industrial arts of the future holds much promise as becoming a chief means of educating.<sup>36</sup> Therefore, the conclusion of Hall is as follows:

In most of its current narrow forms, manual training will prove to be historically, as it is educationally, extemporized and tentative, and will soon be superseded by broadened methods and be forgotten and obsolete, or cited only as a low point of departures from which future progress will loom up.<sup>37</sup>

#### Why Is Adolescent Philosophy Important In Teaching the Practical Arts

In general, adolescent philosophy is important in teaching industrial arts in concentrated form in the secondary

<sup>36</sup>Ibid., p. 174-79.

<sup>37</sup>G. Stanley Hall, Youth: Its Education, Regimen and Hygiene, p. 339.



school pupils are adolescents. Therefore, if the industrial arts program is built around the individual's needs, interests, and motor development as Hall says it should be, the program will be built around the needs, interests, and motor development of the adolescent. Whereas, the characteristic needs, interests, and physical development of the adolescent period would have to be common knowledge of the industrial arts teacher. Otherwise any grade teacher who had a technical knowledge of industrial arts could do just as good a job teaching practical arts in the high school as could the regular high school industrial arts teacher. Without the facts and theories of adolescent philosophy, the present arts and crafts classes would probably be altogether different in appearance and instructions. Without the knowledge that adolescent boys need to be able to differentiate their sex by being in classes by themselves, some practical arts classes might include both boys and girls. Also women might be employed to teach some phases of industrial arts, if adolescent philosophy did not show the need for adolescent boys to have some associations with grown men. Because of rapid physical development, the adolescent is often clumsy and that prevents him from being able to do fine details in his work, and his mind is also better adapted to large concepts rather than detailed studies. These two facts that were introduced by adolescent philosophy, in themselves can completely change the aspects of a normal arts course when it concerns teenagers.

If the industrial arts teacher has a good working knowledge of the technical skill and the history of his subject with the power to utilize a wide repertory of methods, devices, and machines, and the ability to grasp and use new and old ideas concerning them; if he has a good useful concept of the immediate community and its needs; if he has an adequate, applicable democratic philosophy of his own to base his aims and purposes in teaching; if he is earnest and sincere in his desire to do his part to help the present and future environments by teaching in some secondary school, he will have a very hard time to accomplish these objectives unless he understands his pupils, the adolescents, by applying the principles of adolescent philosophy. Thus, to be a successful teacher in the full sense of the word, the importance of adolescent philosophy in teaching industrial arts in the secondary schools can not be ignored.<sup>38</sup>

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<sup>38</sup>The writer of the present study has used the accumulated knowledge of Hall's works on adolescent philosophy and practical arts that are listed in the bibliography for the material used in this discussion.

## CHAPTER V

### A COMPARISON OF HALL'S PHILOSOPHY OF THE PRACTICAL ARTS WITH THE PHILOSOPHY OF INDUSTRIAL ARTS IN THE UNITED STATES TODAY

Basically Hall's philosophy of the practical arts and the present day philosophy of industrial arts are the same. They are both based on the fact that education should be practical. Education, says Hall, should fit the child for life by establishing ideals that prepare him for a whole, complete life and for practical everyday service to humanity.<sup>1</sup> Robert W. Cynar says that present day industrial arts education must be practical by helping to provide the adjustment needed by the students to meet life and to become good citizens.<sup>2</sup> Also, both philosophies agree that education to be practical should help fit the child for his future occupation. Hall believes that to present a practical education the school must keep in touch with life at every point. It must not only represent life, it must prepare for it and actually help create it by preparing a student for a future occupation

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<sup>1</sup>The ideas concerning Hall's practical arts philosophy that are used in this chapter are taken from Chapter III, Volume I and Chapter XVI in Volume II of Hall's book, Adolescence.

<sup>2</sup>Robert W. Cynar, "A Challenge to Vocational Education," Industrial Arts and Vocational Education, XL (May, 1951), 177-79.

that is best suited to him. The philosophy of industrial arts today agrees with Hall in that its course of study presents material that is practical in almost any occupation and provides special guidance teachers and committees to help the pupil select an occupation that best meets his individual needs.<sup>3</sup>

Another ideal in which the two philosophies agree is that the course of study should be based on the needs of each individual. Hall maintains that the subject matter and activities introduced in a practical arts course should be in harmony with the needs of each individual. Therefore, each individual should be studied and made a special problem and the work adapted to his nature and needs if his personality is to reach full maturity. The trend in the modern philosophy of industrial arts has also been away from mass education to individual education. John Frieese presents the theories that education should be based on the need and experience of the pupils instead of upon what some educators think those needs should be or might be.

Too much of our school work today centers around the life experiences of others. Children have such education. . . as recorded experiences of others. Such education is unreal.<sup>4</sup>

Knowledge, Hall believes, should not be standardized as it often is as a result of college influence on the high

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<sup>3</sup>Ibid.

<sup>4</sup>John F. Frieese, Course Making in Industrial Education, p. 59.

schools. When the high school's main function is to meet the requirements of college entrance examinations, the secondary school courses become rigid and fixed. Year in and year out the same facts are taught each week of each year. To enforce a standardized curriculum upon an adolescent is not impossible; but without interest, which is the result of this system, and little knowledge will be retained. An industrial arts course should keep in touch with and present the vast changes that take place in industry each year, since that is the only way an individual can develop to his fullest extent. The same ideal is presented concerning industrial arts today. Cynar says that it is the responsibility of the school and teachers to keep abreast of technological changes and to add or eliminate courses or supplement others to meet the changing demands of society and the needs of the students.<sup>5</sup>

In Hall's philosophy there is the belief that all students should have the opportunity to take industrial arts in the secondary school. These courses have the advantage of being suited to any intellectual level. They meet the needs and interests of a student of low, average, or high intelligence. There are no other subjects that can provide so many opportunities for giving scope to special abilities and inclinations for keeping youth in touch with life, and making training truly cultural. This ideal is also expressed by the present-

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<sup>5</sup>Cynar, op. cit., p. 52.

day industrial arts leaders. They also believe that an industrial arts training program rests on the sound liberal education of the individual. It is not the purpose of the educators of today to place in industrial arts classes only those students who could not get along anywhere else. This training should be part of the education of every youth completing a secondary school education.<sup>6</sup>

Hall firmly believes that the school should not be made in the image of the past nor of the present, but should fit man for the next stage of his development. Because of the rapid transition and expansion of our race, the ideal of future development should be more dominant than ever before. The children must be trained not merely to maintain the present civilization, but to advance upon it. Education must always see that no good of the past is lost; but it must infuse into youth a deep discontent with things as they are, and it must present ideals that will lead to the next steps in human evolution. Parallel with Hall's ideal is the present conception presented by Grace that industrial arts can not rest on the accomplishments of the past generation in view of the conditions that will confront us during the next generation. Neither can it rest on the magnificent work of the present --with respect to the accomplishments made possible by broadening the industrial arts field throughout America. Instead,

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<sup>6</sup>Alonzo G. Grace, "Vocational Education and the Post-War Period," Industrial Arts and Vocational Education, LXVI (December, 1945), 230.

a balance between past and present accomplishments and the goals of the future must prevail.<sup>7</sup>

Industrial arts is so very important in Hall's ideal of what should constitute an education program that he believes it should be used at every age level. The younger children should have industrial arts interlaced with every subject in the class room. The result would be more interest in school work and the retention of a larger well of knowledge. Although at the present time few school systems use this ideal, several experiments have been carried out successfully to add further concrete proof that Hall's theory is actually a fact. One of the latest experiments was completed at Suffolk, Virginia, in March, 1952. This experiment was carried out by the high school industrial arts teacher to prove to the administration that industrial arts was a worthwhile addition to the curriculum of the elementary school, and when integrated with the academic subjects, it would broaden and strengthen the student's education in other subjects. The experiment was highly successful in that it actually proved the importance of industrial arts in the elementary school curriculum.<sup>8</sup>

One of the fundamental concepts underlying Hall's and the modern educators' thinking concerning industrial arts and its philosophy is the theory that "you learn by doing". Hall

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<sup>7</sup>Ibid., p. 321.

<sup>8</sup>T. W. Culpepper, Jr., "Elementary Industrial Arts Experiment at Suffolk, Virginia," Industrial Arts and Vocational Education, XLI (March, 1952), 88-90.

believes that the child learns best by actively participating in concrete experiences. Many facts are more easily accumulated and retained longer when taught by this method. Since the adolescent is in a period of extremes, sometimes it is the only way he will learn at all. Therefore, since the teenager is in a period of actually needing and desiring knowledge, he should have the best and the most desirable methods of teaching applied in his courses. The philosophy of industrial arts of today goes further in the use of the theory that "you learn by doing", than just in application to manual activities. For example, it is now believed that the pupil obtains leadership qualities more easily by actually performing the tasks and duties required of a leader, or he learns how to cooperate with his fellow Americans by actually working with them on common problems.<sup>9</sup>

Hall advises classes to have an abundance of group activities and group planning, since adolescents need to be with and work with other students of their own age. In this type of activity the adult should only lead and direct. This type of study gives the pupils a chance to express their own opinions and to judge opinions of others. The adolescent also has the chance in group work to sort the good, sound ideas and ideals from the poor, to combine several opinions for more wholesome generalizations of his own, and to compare his own

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<sup>9</sup>Arthur A. Dick, "Promoting Industrial Education," Industrial Arts and Vocational Education, XLI (April, 1952), 116-118.



beliefs with those of the other teenagers. The present-day teachers have assimilated their ideas to meet the need of group activity, since they agree with Hall, and have developed the conference method of teaching. The benefits that are offered by this device to the individual are the following:

1. They learn to appreciate the value of this method since it covers more ground with a more complete absorption than other learning methods.
2. The self confidence of the individual improves through participation.
3. The individual develops logical thinking habits which can be used to advantage in the discussing of any problem that concerns him.
4. The conference method promotes the individual's "sense" of sharing.
5. In all cases, the individual's knowledge of a subject is broadened.
6. He is encouraged to participate more freely in any discussion group of which he may be a part.<sup>10</sup>

In his discussions of the importance of industrial arts in the secondary school, Hall emphasizes many of its social advantages. It is one place in the present school organizations where adolescent boys are in class with only members of their own sex, and boys at this stage of development definitely need this type of grouping. Furthermore, industrial arts teachers are usually men and teen-age boys need this association with an adult man. Ward L. Myers expresses an opinion agreeable to Hall's. He says that since it is believed that

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<sup>10</sup>N. W. Simons, Jr., and Edward G. Senkevity, "Values of Conferences and Conferences Training," Industrial Arts and Vocational Education, XL (January, 1951), 4.

boys and girls need different subject matter at the junior high level; that it is illogical to schedule them together for industrial arts.<sup>11</sup> Whereas, since the author of this present study found no recent industrial arts discussions on whether men or women would teach industrial arts in the secondary school, it is assumed that the present-day philosophers accept the theory that men are best suited to teach industrial arts in the junior and senior high schools.

Another theory that has close agreement with Hall's and the modern industrial arts philosophy concerns the use of text books. Hall says that the pupils are given too many assignments and use the text book too much. Study hours at school should be few since almost all study should follow calculated class work at class time. Home studying should be only for "revision" and "details". Therefore, unless the study problems are worked out by a class group, almost everything should come orally from the teacher with the text book having a subordinate place in class or home work. Often, says Hall, text books are used only as "crutches for the lame knowledge" on the teacher's part. In the present age, the industrial arts teachers have found that instruction sheets, films, film strips, step by step models, wall charts, and demonstrations are much more effective to supply information than are the text books. Also, several experiments have been

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<sup>11</sup>Ward L. Myers, "The Next Twenty Years in Industrial Arts," Industrial Arts and Vocational Education, XL (October, 1951), 317-18.

made concerning television as a visual aid. At the present time the industrial arts department of the Millersville State Teachers College, Lancaster, Pennsylvania, is continuing to present television program regularly over WGAL-TV (channel 4).<sup>12</sup> In general, the industrial arts programs seek to illustrate and to demonstrate certain phases of handwork in an interesting, entertaining and educational manner. Some modern educators believe that as a public relations tool, television is probably unequalled. Therefore, schools should use television as one means of keeping the public informed about school activities.<sup>13</sup>

Hall's philosophy of industrial arts advocates pupil interest in all class room activities and in formal class room atmosphere. These two ideals are still accepted by the educators of today. Claude E. Nihart says that pupil interest is even more important than it was fifty years ago. Then it was such a relief to get away from sitting still in the class room that pupils were not so critical as to what was actually done in the shops as they are today. Also, present-day courses are not so rigid and formal as in the past. They are more flexible and more easily adapted to different teaching situations. However, there should be an organized course of

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<sup>12</sup>E. G. King, "Modern Industrial Arts," Industrial Arts and Vocational Education, XXXIX (September, 1950), 258.

<sup>13</sup>Norman C. Pendered, "Television in Education," Industrial Arts and Vocational Education, XLI (February, 1952), 45-46.

instruction since it encourages a program of directed rather than incidental learning.<sup>14</sup>

A careful examination of the basic objectives of industrial arts presented by Hall, and the basic aims and objectives of the leaders of the industrial arts program of today show no conflict. Hall says that a master of any art craft must have the following four-fold equipment:

1. Ability to grasp an idea and employ it.
2. Power to utilize all nerve, and a wide repertory of methods, devices, recipes, discoveries, machines, etc.
3. Knowledge of the history of the craft.
4. Skill in technical processes.<sup>15</sup>

Where Hall has only four objectives, the modern program of industrial arts broadens its scope of specific aims and objectives. Some of these listed by Nihart are as follows:

1. To develop ability to work and live with other people.
2. To develop manipulative ability and skill in using tools and machines.
3. To develop self-discipline.
4. To develop student's knowledge of good workmanship and design and appreciation of it.
5. To develop the ability to express himself using tools and machines of industry.

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<sup>14</sup>Claude E. Nihart, "Industrial Arts Traditions," Industrial Arts and Vocational Education, XLI (May, 1952), 145-47.

<sup>15</sup>G. Stanley Hall, Adolescence, Vol. I, p. 176.

6. To encourage the student to learn by solving his own problems.

7. To encourage interest in his subject so that he will read related material on his own.<sup>16</sup>

Although the above statements do not make a complete list of the specific aims and objectives of the present-day industrial arts program actually neither do the four aims complete Hall's, since Hall went on in his studies to discuss many other policies necessary to make his four aims successful. Also, as Hall's specific principles of general education applies to his field of industrial arts, it appears that the general trend of industrial arts is to work toward the aims and objectives of general education. This conclusion could also be made concerning present-day educational and industrial arts aims and objectives.

In conclusion it might be stated that fundamentally Hall's philosophy of the practical arts and the present-day philosophy of industrial arts are one and the same. Concluding evidence of this fact is found in examining Myers' definition of the industrial arts found in the United States today and Hall's definition some fifty years ago. Myers defines modern industrial arts as follows:

Industrial arts is one of the practical arts, a form of nonvocational education. It has for its purpose giving information and experience in the use of tools, materials, and processes incident generally to the home and the manufacturing industry.<sup>17</sup>

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<sup>16</sup>Rihart, op. cit., p. 147.

<sup>17</sup>Myers, op. cit., p. 74.

Hall defined industrial arts as motor education which meets the demand for a more practical education without reference to specialized occupations. Thus, Hall gives actual voice to the unlimited powers of the industrial arts education that Rousseau began as a phase of education that was based upon social and economical grounds only, and that Froebel foresaw as having an educational value to all classes of people.

## CHAPTER VI

### SUMMARY

The present study is a comparative study of G. Stanley Hall's philosophy of adolescence and philosophy of education, with emphasis placed on practical arts to show how his philosophy has influenced the philosophy of present-day industrial arts in the secondary schools of the United States.

Basically democratic, the genetic philosophy of the late nineteenth and early twentieth century finds its most enthusiastic and strongest representative in G. Stanley Hall. The influence of his works has been felt in every department of the school system and in every activity in which human welfare is important. In his works nothing is unrelated to the subject that he is writing about. The most important factor of his works is that he intended for his greatest contributions to give way to future philosophies if they could better help humanity.

Granville Stanley Hall was born on February 1, 1846 in Ashfield, Massachusetts, and died on April 24, 1924. He was born on a farm and received his early schooling in a country school. Later he attended Williston Seminary, received his bachelor of divinity degree from the Theological Seminary in New York City, studied in Europe, and received his doctor of philosophy degree from Harvard. His best writings and his

greatest works were done from 1888 to 1920 while he was president of Clark University. During his lifetime, the "democratic way of life", as it is known at the present time, began to be formed. The industrial age completely took over with the rapid growth of cities and manufacturing areas. The scarcity of labor and freedom of movement caused by western expansion and the industrial revolution resulted in the disappearance of the patriarchal and traditional family and in a complete economic change. As a result of all the other changes, the government began to be directly connected with more phases of the individual's daily life.

The changes in the economical, social, and political aspects of the average American's life brought about changes in the status of the child and adolescent. The new conditions confronting the child and teenager brought about new problems. As a result of these new problems Hall began to do research on the child and the adolescent. His work in child study caused him to be called the father of the child study movement, and his work, Adolescence, gave him wide recognition in that field of study. In his studies, Hall found that the existing theories on education, mostly Hegelian with a modification of Herbart, caused the schools to be too theoretical, speculative, and formal for the best development of the child and adolescent. He also found the need of extensive practical arts training in schools since the industrial age had caused the disappearance of the old apprentice system.



General education, according to Hall, may be defined as the whole effect of environment, whereas, teaching is the conscious effort to shape the course of the development of the higher evolution of the race. The purpose of education is, therefore, to develop the individual fully so that he may use his powers to help establish a future perfect environment. Since education must have a true, practical philosophy, the genetic philosophy should be the basis for educational theories and principles. One basic principle of genetic philosophy is the evolution of the mind and body of man. Genetic psychology teaches that the best things of this world are yet to come. Hall believes that the mind is particularly important since it holds the key to both the past and future, and knowledge of both of these things are needed to understand the individual. The law of recapitulation, the theory that an individual passes through and represents all stages of life of the race, is the other basic principle of genetic philosophy. The child, Hall teaches, if left alone would recapitulate the race since it is largely the teaching of the adult and the influence of environment that obscures the recapitulatory steps.

Using genetic philosophy as the basic philosophy of education, the school should be based on the ideal that the worthwhile principles of the past and present should not be lost, but that the youth should be taught a discontent for standing still. To better employ the preceding ideal, Hall

gives ten recommendations for the complete school system. They are the following:

1. The natural environment that surrounds the pupils should be the basis of the school curriculums.
2. The teacher should provide a large amount of free group conversations.
3. The pupil should never be compelled to say anything unless he wants to.
4. The home and school should work together in various organizations.
5. A good health program is essential in all schools.
6. A curriculum of plays and games can develop almost every good quality and should be used at every opportunity in the class room.
7. Schools should have a student self government system.
8. Pupils should have and know the purposes of their studies.
9. Group activities should be emphasized.
10. Motor activities should be combined with all other activities.

Hall believes that if the above recommendations are enforced by the administrators of the school systems, the school would produce a better group of enthusiastic citizens to advance the evolution of the race.

To achieve the best result in teaching, Hall believes that the educators should know the fundamental characteristics

of their particular group of students. However, continues Hall, the adolescent period is the age level least understood. The majority of educators now agree with Hall that adolescence in boys is the period of growth that begins at about fourteen years of age and continues until sexual maturity. During this period the bones and muscles have a period of rapid growth that often results in a flexibility of joints, clumsiness of movement, and "growing pains." The heart, blood vessels, lungs, brain, sexual organs and various other organs also undergo a period of rapid growth. Not only is there a rapid physical growth, but the emotions are expanding. Pain and pleasure, pity and sympathy, curiosity and interest, selfishness and generosity, good and bad conduct, wisdom and folly are intensified with both ends of the extremes often seen in the adolescents. Tears at the adolescent period are usually of a social nature or the results of sex ignorance. The first stage of adolescent love is usually characterized by a tendency of the sexes to draw apart. Anger is more inward and more intense. Excitement is a definite need of the "psycho-physical organism" of the adolescent. The adolescent has a need to have associations with "gangs" of his own age. He has a desire for knowledge, but often he will not learn unless he learns by "doing".

Industrial arts courses, says Hall, are one of the best means in education to meet the needs of the adolescent. Industrial arts is motor education that meets the practical

needs of the student without reference to specialized occupations. It meets two great needs by aiding in muscular development and helping to retain knowledge by "learning by doing." Industrial arts should be employed in every grade in the school system since any child or youth learns more easily by actually working in concrete experiences. At the present time, writes Hall, theloyd system shows the greatest advancement in processes and methods. However, theloyd system has served its purpose and should make way for further advancement in the practices and methods employed in industrial arts. Hall believes that in the future industrial arts will become one of the chief means of educating the American children and youths.

In general, adolescence and its philosophy is important in teaching industrial arts because industrial arts is concentrated in the secondary school, and the secondary school students are adolescents. Whereas, if the industrial arts program is built around the individual's need, interests, and motor development, as Hall says it should be, the programs will be built around the needs, interests and motor development of the adolescent.

The philosophy of industrial arts today is basically the same as Hall's philosophy of fifty years ago. The two philosophies agree that industrial arts should be practical, help fit the child for life, meet the needs and interests of the individual, and revolve around the theory that you "learn by doing." They are both in agreement with the idea that all

pupils in all grades should have the chance to take industrial arts. In fact, Hall's philosophy is still so far advanced in many of its concepts that many modern teachers and educators could benefit by reading and studying it.

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