

# The Vocational Age Emerges, 1876-1926



## The Manual Training Movement

Although industrial drawing had been introduced into the public school curriculum as early as 1870, little progress had been made on the phases of industrial training requiring the use of tools. The difficulty was probably due to the lack of an adequate method of teaching tool skills. Clues to an effective method were found in the Russian Exhibit at the Centennial Exposition in Philadelphia in 1876. Victor Della Vos, Director of the Imperial Technical School at Moscow, had developed a series of exercises in wood and metal which seemed to solve the method problem encountered in this country. Samples of these exercises composed a part of the Centennial exhibit. The display aroused interest and comment among American educators.

Della Vos separated the distinct types of work into separate instruction shops. Each student had a set of tools and constructed models, in increasing order of difficulty, from his own drawings. The system presupposed a great amount of individual assistance and required that the instruction be given by a skilled craftsman.

One of the visitors at the Centennial, who familiarized himself with the Russian exhibit, was John D. Runkle, president of the Massachusetts Institute of Technology. Realizing the value of tool instruction in general education, Runkle recommended that instruction shops be introduced at MIT. His recommendations were accepted and became a reality the following year.

Edward Atkinson, in a memorandum prepared for the Committee on Prisons of the Massachusetts Legislature, commented, "I have never doubted for a moment that President Runkle had brought from the Centennial one of its most valuable lessons, and that he had the sagacity to perceive that in this plan there was a substitute for the old method of apprenticeship, more effective and better than that could ever have been."

The next major step in the field of tool instruction was taken in St. Louis. In 1879 Calvin M. Woodward, who was then the Dean of the Polytechnic School in St. Louis (a part of the engineering department of Washington University), was appointed director of a newly formed school, the St. Louis Manual Training School of Washington University.

When Woodward completed the prospectus for the new school in Octo-

ber 1879, it was perhaps the earliest practical formulation of the concepts of manual training for secondary school youth. In any case, it is the basis for calling the St. Louis School the "Pioneer Manual-Training School."

When on September 6, 1880, the first class of 50 boys, selected by examination, approached the new building to begin their studies in the first manual training school in the United States, they saw an inscription over the entrance. Inscribed were these words of Woodward, expressing his hopes for this new venture in American education:

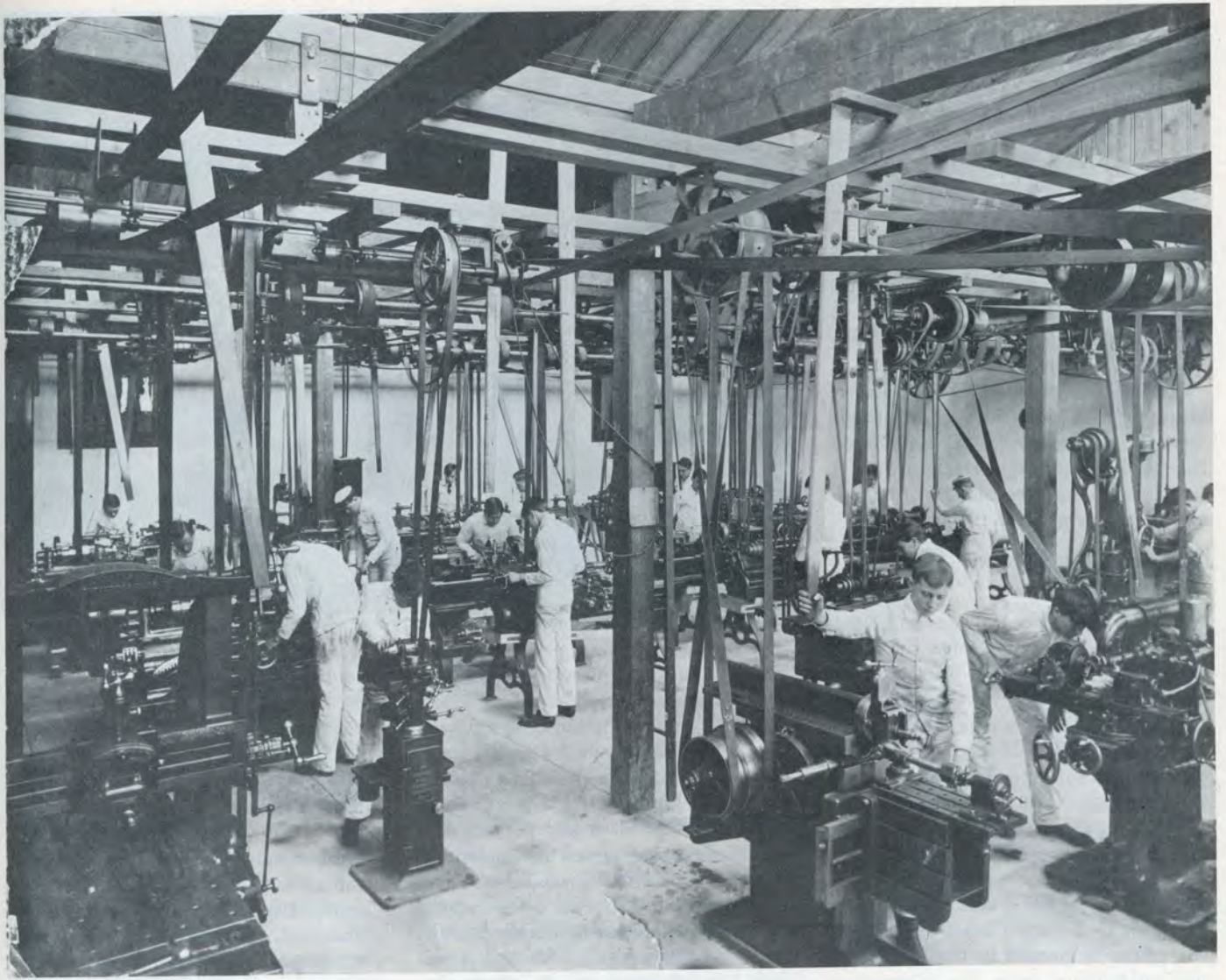
*Hail to the skillful cunning hand!  
Hail to the cultured mind!  
Contending for the World's  
command,  
Here let them be combined.*

Woodward felt that the school should not attempt to make mechanics but should combine the use of books and tools. "Its great object," he said, "is education, moral, intellectual and physical; other objects are secondary."

The course of instruction in the Polytechnic School, as early as 1872, included exercises in wood and metal and required some facility in the use of tools. The tool instruction was accomplished through purposeful activity in which the students prepared models to illustrate scientific principles.

Apparently without knowledge of the Russian methods, Woodward made a substantial start in the new type instruction. By the time the Manual Training School was founded, considerable experience had been accumulated. In discussing the conditions giving rise to the Manual Training School, Woodward reported that he followed no models or patterns but was guided by his experience and the faith of John D. Runkle.

The new education did not tear down the essential parts of the old but merely added a new method of developing ideas, thus broadening the formal education of the day. Such a system had the possibility of fitting the students for life in a more direct manner than had previously been the case. Woodward was careful in stating that the Manual Training School was not a manual labor school, or an industrial school, or a trade school. However, when it is observed that the students divided their working hours almost equally between mental and physical exercises, one is reminded that such was the philosophy of the total manual labor movement.



"Manual's graduates turned out to be remarkably successful in their life's work, but they were a select group to begin with. Because the school had the reputation of being 'tough' the faint of heart seldom sought admission. On the other hand there was some competition among the more capable students to gain admission.

"On February 8, 1910, Woodward submitted his resignation from his various posts at Washington University. He was 72 years of age and had spent nearly 45 years at the University. From time to time after his retirement he attended meetings of the managing board. On January 12, 1914, he passed away at his home in St. Louis.

"For several years enrollment and general interest in Manual had steadily declined. Enrollment in 1914-15 was 141 students, the lowest in 33 years. Manual instruction needed by the university's preparatory students was being supplied adequately by the

programs in the city high school. So on February 5, 1915, Manual was united with another department of the university and at the close of the school term Woodward's Manual Training School ceased to exist. New pathways had been found leading to the cultured mind and the skillful hand." (Barlow)

Manual training was not without its critics. Technical education was called a "deceptive farce" by zealous guardians of liberal education who considered it a threat to the intellect and unacceptable in the public schools. In some ways these fundamental arguments are indicative of the problems faced by vocational education even today.

A system of educational handwork which developed in the Scandinavian countries was the Sloyd system. In the beginning, the movement had only economic significance, but later it was felt that such training would have to

*Until the beginning of the 20th century, the machine shop of the St. Louis Manual Training School of Washington University in Missouri hummed with activity. The facility was the first manual training school in the U.S. and was phased out of existence, appropriately, when public high schools began assuming the responsibility for manual training. (Photo courtesy of Kenneth Brown, State University College at Buffalo, New York)*

be given in the schools to have lasting benefits. Students prepared articles, chiefly of wood, which could be used at home and which might become the basis for home industries. As the educational significance of the system increased, the need for experienced teachers also increased. A program of teacher training developed under the guidance of Otto Salomon.

The Sloyd system aimed to instill a love for work and a respect for honest labor. It proposed to develop self-

reliance, independence, and habits of order, exactness, and neatness. Finally, it proposed to cultivate manual dexterity. The general method required that instruction go from the easy to the difficult, from the simple to the complex, from the known to the unknown. Great stress was placed on the teacher of Sloyd. He must be sound of character, possess educational tact, and, above all, he must lay a proper foundation from which instruction could develop. It is interesting to note that a good teacher was desired, not merely an artisan.

The idea soon spread to the United States, and in 1888, instruction was offered in Boston by Gustaf Larsson to the public school teachers. In a relatively short time the Sloyd system became quite popular in this country.

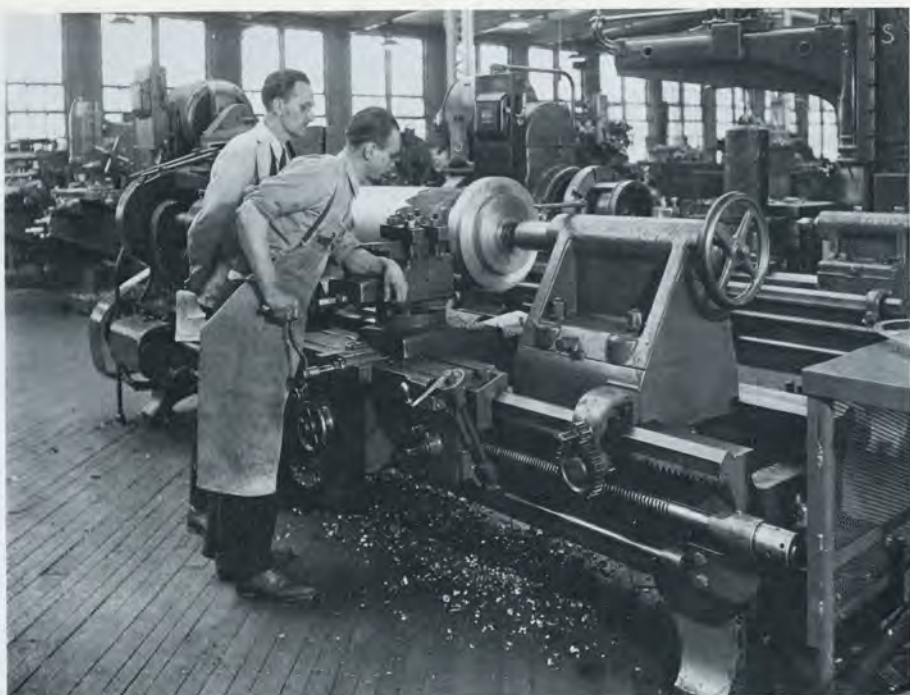
### The Trade School Movement

The trade school movement had been in the emerging stage since the beginning of the various plans for specific trade training. As the objectives of the movement became clearer, farsighted educators adopted some kind of plan for this specific training. Although such training had been attempted in the evening schools, it was largely bookish in nature and did not completely solve the need for an understanding of basic trade skills. Furthermore, training offered at night to the young beginners in the trade was not satisfactory since the instruction came after a busy working day.

At this juncture contradictory principles relative to trade training appeared. Evidently the shop and factory could not of themselves produce a good mechanic. The master mechanics were not prepared to perform in an instructional situation. On the other hand, the principle that the place to learn a trade was in the trade itself appeared reasonable, since the school could not be geared to reflect accurately trade conditions and environment. Despite the evidence that apprenticeship was not entirely satisfactory, its virtues could not be duplicated in the school.

In an attempt to resolve the paradox into a workable system of industrial education, the trade school appeared. Some trade schools were private tuition schools, some were free, and others were operated by individual companies for their own interests.

Thirteen years after the Hampton Normal and Industrial Institute was established, the first school to offer



specific trade training with supplementary studies directly related to each trade was the New York Trade School, founded by Colonel Richard Tylden Auchtmuty in 1881. As a result of his study of labor problems, Auchtmuty developed a pattern of trade training designed to give pre-employment instruction as well as supplementary instruction for employed workers. Any male over 17 years of age might enroll in the school if he could profit from the instruction. Although a tuition was charged, much of Auchtmuty's personal fortune was used to support the school. Among the many benefactors of the school was J. Pierpont Morgan, who provided a generous endowment in 1892.

In addition to the board of trustees, which has traditionally consisted of men of influence and importance in education and industry, the New York Trade School operated with the counsel of trade advisory committees. One of the committees was composed of members of the General Society of Mechanics and Tradesmen of New York.

In contrast to the plan of instruction of the New York Trade School, the Hebrew Technical Institute, founded in New York City in November 1883, offered a greater range of subjects of a general nature. The school may be classed more properly as a technical school rather than a trade school. The need for a school of this nature arose because of the number of Jewish immigrants coming to this country in the late years of the nineteenth century.

*As factories grew, industry came to realize a need for providing training for its own workers. The apprenticeship program at the General Electric Plant in Lynn, Massachusetts, is one of the oldest in the U.S. and continues today. (Photo courtesy of General Electric)*

Many were in poor economic circumstances and became a burden on the Jewish charitable organizations. While increased pledges of financial aid helped solve the immediate problem, lasting benefits could not be obtained.

"The founders of the institute felt that the best and most practical way to help the poorer class of Hebrews was to give the younger members such education as would fit them for success in mechanical trade, and thereby place them in a position to support themselves and those dependent upon them." (Seventeenth Annual Report, Commissioner of Labor)

The school required that an applicant be a resident of New York City, strong and healthy, of Jewish faith, and at least 12½ years old. Each applicant also was required to supply letters of recommendation testifying to his scholarship and character.

Still another departure in trade training occurred with the establishment of the Williamson Free School of Mechanical Trades in Philadelphia in 1891. The school was endowed by Isaiah V. Williamson, merchant and philanthropist of Philadelphia, to give trade instruction which the apprenticeship system did not supply. The attitude of the Williamson School is

shown in a circular about the school:

"Instruction rather than construction has been shown, after an experience of over fifteen years, to be wonderfully efficient in developing a class of journeyman mechanics of the finest grade, and the reports from employers enable us to say with entire confidence that our school apprentices immediately on graduation are, as an average, more valuable and proficient than shop apprentices when they finish their trade."

Boys from 16 to 18 years of age were bound as indentured apprentices to the Williamson School trustees for three years. After preliminary courses were completed, a student was assigned to a trade by the school trustees. Due regard was given to the inclination and adaptability of the boys for the trade to which they were assigned.

Williamson was convinced that the abandonment of apprenticeship resulted in idleness, vice, and crime, and constituted a threat to society. His decision to endow the school was based on plans developed over thirty years. He concluded that any able-bodied, industrious, and economical young man who could learn a trade would become a useful citizen, in addition to earning a living. Furthermore, he proposed that the domestic life of the school should conform to principles of good family government. The school was entirely free, no charge was made for clothing, food, or instruction. Only the most worthy of all applicants were accepted by the board of trustees.

The Williamson School was founded at a time when the manual training movement was growing in popularity. The school subscribed to the nature of the movement and actually added work, preliminary to trade instruction, along the lines of manual training. It was felt that such instruction was necessary and, since manual training had not been widely established at that date, many of the pupils from the public schools would not have had such training.

The New York Trade School, the Hebrew Technical Institute, and the Williamson Free School of Mechanical Trades each represents a type of school which developed during the initial period of the trade school movement. The New York Trade School offered specific trade training with scientific instruction related directly to the trade. The Hebrew Technical Institute, while it offered a limited amount of specific trade training, was

organized in the manner of a technical institute which combines trade training with the subject matter of general education. The Williamson School started with a program of manual training for all students, added some general education, and finally offered specific intensive trade training. The students were apprenticed to the board of trustees and lived at the school.

Other schools which developed during the early years of the trade school movement usually adopted one of these plans. The exceptions are found in the corporation schools which attempted to revive the old type of apprenticeship to meet their particular needs.

Some scheme of industrial education was supported by nearly every industrial employer. Large organizations usually preferred to conduct their own systems of education. Those not able to do so usually supported the plan of industrial training in the public schools. An apprenticeship program could not solve social and trade problems as well as a good trade school. However, a well-planned apprentice program with a reasonable amount of academic instruction produced excellent results. The question of the value of apprenticeship as compared with the trade school frequently arose. Carroll D. Wright, president of Clark College, Worcester, Massachusetts, formed the opinion that "there is no doubt of the need for industrial training in our public schools as a definite preparation for the special shop training which is being generally adopted in all modern shops, as well as for employment in those concerns which have only a mediocre system of training."

The number of industrial concerns associated with educational projects has been tremendous. While only a few are mentioned here, the successful development of such schools had a distinct bearing on the later history of vocational education.

In 1872 the firm of R. Hoe and Company, New York, manufacturers of printing presses, was confronted with a demand for improved machinery. This required a more intelligent class of workmen, and to secure them the company established a school which met two evenings a week. The school was free and open to employees of the firm. Suppers were provided by the company immediately upon the close of the day's work and instruction began in the early evening. Among the



*In 1870 Helen Swallow Richards became the first woman to enter MIT. Armed with her degree in chemistry, she set off on a lifelong quest to improve living conditions. Among her accomplishments was playing a significant role in founding the American Home Economics Association, of which she was the first president. She also was greatly concerned with the teaching of home economics in schools and teacher education institutions. (Photo courtesy of Vassar College)*

subjects studied were English, mechanical drawing, arithmetic, geometry, and algebra. Studies were related directly to the work of the firm.

Attendance was not compulsory, but advancement within the firm was measured in part by special preparation for it. The graduates were preferred over other workers because it was felt they were better equipped to do the work entrusted to them. The school proved to be satisfactory and after 30 years of operation the company was convinced that a superior class of workmen was their reward.

In 1902 the General Electric Company of Lynn, Massachusetts, established an apprenticeship system which combined the activities of shop and classroom. Academic courses were selected for study which would help the apprentice develop a better understanding of machines and machine parts. Included in the studies were courses in interpretation of mechanical drawings, sketching, and design of auxiliary tools required for modern manufacture. The plan of combining apprenticeship with industrial science was evidently successful, since the company was satisfied with the results and the system was widely copied.

In 1901 the Baldwin Locomotive Works of Philadelphia established schools for three classes of their personnel. The first class was for those who had completed elementary school but who had not reached 16 years of age. They attended school three evenings a week for three years and studied geometry, arithmetic, mechanical drawing, and shop practice. The second included those over 18 who had completed a more advanced educational program. This group attended school two evenings a week for two years and studied such subjects as chemistry, advanced mathematics, and mechanical drawing. The third group was composed of graduates of colleges and other advanced institutions. They were not required to attend classes but were required to read technical journals and turn in synopses of the various articles.

The attitude of the Baldwin Locomotive Works toward education in general was that better elementary schools would provide more efficiently for the apprenticeship system and that evening schools were necessary in order that working boys might supplement their daily shop experience.

Organization of schools by other in-

dustrial concerns followed similar patterns. In almost every case the company noted in the employee a deficiency interfering with efficient production, and then set about to remedy the deficiency.

The Ludlow Manufacturing Company of Ludlow, Massachusetts, found that in a 40-year period of operation, not one of the overseers or second hands in the textile mill had been educated in the village schools. This discovery made it evident that the company must depend upon men trained abroad or else give growing boys in the village an education which would fit them for responsible positions in their mills.

### **Home Economics and Lake Placid**

By 1900 domestic science had reached into the curriculum of the public schools. In the decade that followed, the idea spread across the nation, paralleling the growth of interest in manual training.

Early in the 1880's, a plan for teaching the household arts to children in the form of play was originated and became known as the Kitchen Garden Movement. The Industrial Education Association of New York in 1884 developed from the Kitchen Garden Association. The Industrial Education Association endeavored to teach the poor of the city how to sew. This association resulted in the establishment of the New York College for Training Teachers in 1888, now Teachers College of Columbia University.

The Lake Placid, New York, conferences became milestones in the development of home economics education. During the summer of 1898, Ellen Richards was a visitor at the summer home of Mr. and Mrs. Melvil Dewey at Lake Placid. Dewey was the secretary of the New York State Board of Regents. On one occasion Mrs. Richards spoke to the members of the Lake Placid Club on domestic problems, and through a suggestion that arose at that meeting, invitations were sent to a selected group of individuals to attend a conference at the Dewey home during the summer of 1899.

This semi-private organization continued its meetings, by invitation, for 10 years. The economic and social problems of the home were discussed. Courses of study for all areas of education were considered in relation to the growing home economics movement. Members of the group made surveys of

various phases of home economics, and important questions relating to definition and nomenclature were settled. The group studied the professional training of home economics teachers and outlined the nature of graduate work in pure research and applied science. Extensive reports on the progress of home economics in the public schools and colleges were prepared. Various agencies of the states and of the federal government participated in these meetings and promoted numerous related activities.

During the tenth conference the problem of the school lunch room came up for discussion, resulting in increased experimentation and adoption of the program so familiar today in junior and senior high schools.

As the year 1908 ended, a group of women met in Washington, D.C., for the purpose of organizing the American Home Economics Association. On January 1, 1909, their purpose was achieved. The Association proclaimed that its objective was to improve living conditions in the home, in institutions, and in the community. Mrs. Richards was elected unanimously as the first president.

### Developments in Agricultural Education

In 1887, through the efforts of Senator William H. Hatch, the Congress passed an act providing for financial support for agricultural experiment stations. The provisions for the scientific study of agriculture were carried out in the land grant colleges having departments organized as experiment stations and in separate institutions organized for that purpose.

As early as 1872 Morrill, who had moved from the House to the Senate, promoted a bill providing for additional federal aid to the land grant colleges. For the next 18 years revisions of the original bill were discussed in Congress, but agreement was difficult to reach. Finally in 1890, the second Morrill bill providing further support for the land grant colleges was passed. It provided for an initial grant of \$15,000 for each state and territory with an annual increase of \$1,000 for ten years, after which the annual appropriation would be \$25,000.

The Congress in 1914 passed the Smith-Lever Cooperative Extension Act, which ultimately provided \$4,100,000 to increase the extension work of state agricultural colleges. The nature of the work proposed by this act is interesting: "That coopera-

tive agricultural extension work shall consist of the giving of instruction and practical demonstrations in agriculture and home economics to persons not attending or resident in said colleges and in the several communities, and imparting to such persons information on said subjects through field demonstrations, publications, and otherwise; and this work shall be carried on in such manner as may be mutually agreed upon by the Secretary of Agriculture and the State agricultural college or colleges receiving the benefits of this act."

The act incorporated the county agent system of the Department of Agriculture. The agricultural colleges thus were required to provide an extension system which was quite different from the usual "university extension" program. Instruction centers were established in each county, supported cooperatively with county funds.

With the passage of the Morrill Land Grant College Act in 1862, the high school programs nearly disappeared. It was presumed that the land grant colleges would supply the need for agricultural education. A few individuals and some of the agricultural societies advocated continued instruction in the secondary schools, with the result that by 1881 an entirely new movement for agriculture in the secondary schools had appeared.

In that year Augustus Storrs established the Storrs Agricultural School in Mansfield, Connecticut. This secondary school combined practical farm studies and related academic instruction. In 1888, the University of Minnesota established a secondary school of agriculture in connection with its Department of Agriculture. This move was the result of the demand for practical instruction by the farmers of the state. In 1889, Alabama by an act of the state legislature established secondary agricultural schools.

The yearbook of the U.S. Department of Agriculture for 1897 commented on the need for agricultural instruction on the secondary level and pointed out the following: "But it is not believed that these special agricultural high schools will fully meet the needs of our farmers for agricultural instruction of this grade. Any school so distant from the farmer's home as to necessitate long journeys and residence at the school for two or more years must necessarily be too expensive for most of the farmer's children, especially after they have reached an age when their services may be more or

less utilized on the farm. What is needed is courses in agriculture in numerous schools to which farmers' children resort, near their home, to 'finish' their education after they are through with the common schools."

The Office of Experiment Stations, the Association of Agricultural Colleges and Experiment Stations, the U.S. Bureau of Education, the National Education Association, the National Society for the Scientific Study of Education, and many others promoted the further development of agricultural instruction in the secondary schools. It was significant that instruction advocated by these organizations included recommendation for generous public financial support.

By the beginning of the twentieth century the educational literature and meetings of educational associations were giving increased attention to agricultural instruction. Alfred C. True of the U.S. Department of Agriculture, quoting from the *Experiment Station Record*, described the joint meeting of the California State Teachers Association and State Farmers Institute held in Berkeley in 1905. It was concluded at this meeting that "The claims of agricultural education to a place in the public school system in secondary and elementary schools, as well as in the colleges, were elaborately and earnestly presented and discussed by a considerable number of speakers. More significant even was the general atmosphere of sympathy with the idea that the industrial element must in one form or another become a permanent and pervasive constituent of our public school system."

### The Douglas Commission in Massachusetts

Industrial progress continued to be of such paramount importance in the lives of the people of Massachusetts that they chose to re-evaluate their educational system in 1905. The results of the expanded program of manual training had not proved to be entirely satisfactory. Manufacturing methods had changed considerably in previous years and commercial competition had increased to such a degree that manufacturers advocated training in industrial pursuits.

The school law of 1872 authorized the establishment of industrial schools, thus opening a "way which the municipalities have not yet chosen to travel, but which must be entered upon if the state is to meet its obligations to

its youth under modern conditions."

On June 7, 1905, Governor William L. Douglas, a shoe manufacturer, appointed a Commission on Industrial and Technical Education in response to a resolution of the state senate and house of representatives, approved May 24, 1905. The commission, which later became known as the Douglas Commission, consisted of nine citizens who represented the interests of manufacturing, agriculture, education, and labor. The resolution was quite clear as to the objectives of the commission, for it provided that "the commission shall investigate the needs for education in the different grades of skill and responsibility in the various industries of the commonwealth. They shall investigate how far these needs are met by existing institutions, and shall consider what new forms of educational effort may be advisable, and shall make such investigation as may be practicable through printed reports and the testimony of experts as to similar educational work done by other states, by the United States government and by foreign governments."

The Douglas Commission held 20 public hearings and heard from 143 persons representing a variety of callings. At a special hearing of the Commission, industrial education in England was discussed by Sir William Mather, a member of Parliament and a champion of industrial education.

The Commission reported at length on the impressions obtained from public hearings. Briefly, they are:

(1) There was a widespread interest in the general subject of industrial education, or special training for vocations.

(2) The hearings showed that, besides this general and theoretical interest, there was a practical and specific interest among manufacturers and wage earners because of a personal need. The lack of skilled workmen was not chiefly a want of manual dexterity but a want of what may be called *industrial intelligence*.

(3) The Commission was made aware of a growing feeling of the inadequacy of the existing public school system to meet fully the needs of modern industrial and social conditions. The schools were too exclusively literary in their spirit, scope and methods.

(4) The Commission found no evidence that even those people most interested in industrial education had any definite ideas as to its proper scope

or method.

(5) The Commission early became aware that its purpose and work aroused the suspicion and hostility of many of the labor unions of the state.

(6) To technical schools, as distinguished from trade schools, the Commission found little opposition.

(7) To the question concerning who should bear the expense of technical education the common answer was that it should be borne wholly or partly by the state.

On the basis of public hearings, study, and observation, the Commission reached conclusions destined to have far-reaching effects on future vocational education. It found that the productive value of the child entering employment at the age of 14 or 15 was small compared to what might be expected if the child had the benefit of industrial training. Children who remained in school for a year or two longer did much better when they were employed because of their maturity. However, the additional time in school did not prepare the student for efficiency in productive employment. Lack of industrial training tended to increase the cost of production.

Furthermore, industries which demanded of their workers a combination of general intelligence, technical knowledge, and skill would command the world markets. Regardless of the cost of vocational training, failure to furnish such training would be even more costly. The foundation for technical success required a wider diffusion of industrial intelligence. "This can only be acquired in connection with the general system of education into which it should enter as an integral part from the beginning."

The Douglas Commission did not feel that its responsibility included specific plans for industrial education. On the basis of its findings the Commission did suggest a draft of a bill embodying its recommendations. Industrial education was to become a part of the Massachusetts school system. The bill was passed and was approved by the governor in June 1906. The second commission provided by the bill began work immediately. The model program which thus developed in Massachusetts was eyed with interest by industrial leaders and educators from other states of the nation.

#### National Society for the Promotion of Industrial Education

The widespread interest in industrial education which prevailed through-

out the country led to the formation of a society to promote that interest further. On June 9, 1906, three days after the second Massachusetts commission was appointed, a group of men met at the Engineer's Club in New York City to discuss the formation of a society in the interests of industrial education. James P. Haney, director of manual training of the New York City public schools, and Professor Charles R. Richards, Teachers College, Columbia, were primarily responsible for calling the meeting. The 13 men who attended agreed on the necessity of an organization.

Prior to adjournment a subcommittee was appointed to plan a fall meeting to effect a permanent organization of the society. The subcommittee met several times during the summer, and the preliminary announcement of the fall meeting carried the following statement about industrial education:

"The need for industrial education in the United States has become a social and industrial question of the first magnitude. It is not only a question that critically affects our material prosperity as a nation, but one that vitally concerns the well being of society as a whole."

The final announcement of the fall meeting set the date for November 16, 1906. Two sessions, one day and one evening, were held at Cooper Union, New York City. The first session was concerned with organizational details. The second was a general session for the purpose of hearing from nationally known industrialists and educators. Approximately 250 persons attended. The speakers for the evening meeting included Milton P. Higgins, president of the Norton Company, Worcester, Massachusetts; Nicholas Murray Butler, president, Columbia University; Frank A. Vanderlip, vice-president, National City Bank, New York; Frederick P. Fish, president, American Telephone and Telegraph Company, Boston; Alfred Mosley, a British mining engineer; Samuel R. Donnelly, secretary, General Arbitration Board of the New York Building Trades; and Jane Addams, head of Hull House, Chicago.

Henry S. Pritchett of the Carnegie Foundation was elected president of the National Society for the Promotion of Industrial Education. The aim of the society was to focus public attention on the value of an educational system which would prepare boys and girls to enter industrial pursuits. The constitution stated its objectives thus:



"The objects of the proposed society are to bring prominently to the public attention the importance of industrial education as a factor in the industrial development of the United States; to provide opportunities for the study and discussion of the problem; to make available through publication the results of experience in industrial education both in this country and abroad; and to assist in other desirable ways toward the establishment of institutions for industrial training."

Included in the central idea of the organization was the thought of uniting all of the forces of industrial education. Thus a much greater impression could be made on public opinion than would otherwise be possible. It was known that educational, industrial, and social conditions varied greatly in the different states and the methods of propaganda would of necessity have to fit local conditions.

The board of governors of the Society, at a meeting on March 14, 1908, prepared plans to organize a branch in each of the states from which effective activity might radiate. The work of the state societies was quite effective. As an example, the Milwaukee School of Trades was established under public school auspices largely through the aid of the state branch of the national society.

Early in the work of the society it became necessary to define the term *industrial education*. It was generally understood that industrial education

referred to that area of education between manual training and college engineering. The term was intended to apply to vocational training of direct value to the industrial worker. With this understanding of industrial education, the National Society for the Promotion of Industrial Education sought to promote nationwide interest and to educate the public to the values of training in industrial occupations. Ultimately the Society broadened the scope of its undertaking to include other areas of vocational training.

During its early years the Society concentrated on the preparation of bulletins, organization of annual conventions, and formation of state branches. Perhaps the most notable work of the Society was its part in securing the passage of the Smith-Hughes Act, which provided federal support for vocational education.

In 1917 the society changed its name to the National Society for Vocational Education, since it had achieved one of its major objectives — federal aid. In 1925 and 1926 plans were completed for the National Society to merge with the Vocational Education Association of the Middle West to form the present American Vocational Association, thus creating a strong national organization with nationwide interests and influence.

#### **Rise of Vocational Guidance**

The vocational guidance movement developed almost simultaneously with the vocational education movement.

*Members of the National Society for Promotion of Industrial Education posed for a formal picture at the society's Second Annual Convention in 1908. The society, which was founded to focus public attention on education for industrial pursuits, merged with the Vocational Education Association of the Middle West in 1926 to form AVA. Thus AVA enters the second half of its first century as the nation enters its third century.*



In the beginning the two movements were separate and distinct but in time they became closely associated. This was inevitable because of the educational relationships of the two movements. They "are elements in the same series, vocational guidance being both the vestibule and the back porch for vocational education," according to John M. Brewer, a Harvard University professor.

It was believed that the interest in assisting young people to choose careers was directly associated with the problems arising from the division of labor, the extension of the vocational movement, the growth of technology, and the spread of modern forms of democracy. Professor Frank Parsons of Boston University was instrumental in founding the Vocational Bureau of Boston, which was organized to deal with occupational adjustment problems of both youth and adults. The Vocational Bureau opened on January 13, 1908. Parsons found that people were greatly interested in seeking advice about occupations. In time, individual counseling gave way to vocational guidance. It was Parsons who first used the term *vocational guidance* in his first report on the work of the Vocational Bureau.

The occupational adjustment of an individual required in part that his interests, aptitudes, and abilities be compatible with the demands of the occupation. Early leaders in the vocational movement and those associated with the development of vocational guidance evidently were quick to realize their common objectives. From the start of the vocational movement all programs were intended for those who could profit from the instruction. Mere acquisition of skills has never been the sole objective of the vocational education movement. In recent years the scope of vocational guidance has been expanded and included in a still broader concept, that of career education.

#### Early Federal Bills for Vocational Education

One of the reasons for the existence of the National Society for the Promotion of Industrial Education was to obtain federal support for industrial education. Early in the life of the National Society, committees worked on plans to be submitted to Congress. Interest in federal aid was shared jointly by several groups, but differences of opinion arose concerning the methods and content of the measures.

The bill introduced in Congress in 1907 by Representative Charles R. Davis of Minnesota was not supported by the Commissioner of Education or the National Society, whose leaders insisted that a thorough investigation of the status and the future needs of the entire field of industrial and vocational education was necessary before an adequate bill could be prepared. The Davis bill failed to pass because of lack of support by those groups most interested in federal aid to vocational education.

The American Federation of Labor contributed immeasurably to the promotion of federal aid for vocational education. The Federation had long been friendly to vocational education. At its meeting in Denver in November 1908, a resolution was adopted which required additional study of industrial education. The president, in conjunction with the executive council, appointed a committee "to investigate the methods and means of industrial education in this country and abroad, and to report its findings, conclusions, and recommendations to the next annual meeting of the American Federation of Labor."

The committee held two meetings. The first was in New York City on August 21 and 22, 1909, and the second in Washington, D.C., on October 22 and 23. The committee made its report at the Toronto convention in November 1909. The interest expressed by business organizations, boards of trade, labor organizations, and educators satisfied the committee that the demand for industrial education was based on real need. Industrial misfits found throughout industry were additional proof to the committee that action was necessary.

The committee reported, "If we are to secure industrial supremacy, or even maintain our present standards in the industrial world, we must in some way in our educational system acquire an equivalent to our old apprenticeship system."

The committee members investigated the apprenticeship system thoroughly and invited comments from leaders in the field. They investigated the cooperative industrial education plan. They studied the past legislation for education and received comprehensive reports on the educational programs of private companies and private trade schools. A statement was prepared giving organized labor's position favoring unification of effort of all groups in order to arrive at the



Hoke Smith

optimum solution of the problem.

Finally, the committee drafted a bill for Congressional enactment based on its findings and conclusions. Arthur E. Holder, chairman of the legislative committee of the American Federation of Labor, was instructed to secure its introduction in Congress. Senator Jonathan P. Dolliver of Iowa, chairman of the Senate Committee on Education and Labor, agreed to introduce the bill and to champion its provisions. The bill was introduced in the Senate in January 1910, and in April, the Committee on Agriculture and Forestry conducted hearings.

The bill provided for cooperation with the states to encourage instruction in agriculture, trades and industries, and home economics in secondary schools. The bill also provided for the preparation of teachers for those vocational subjects and for the appropriation of money and the regulation of its expenditure. A companion bill was introduced in the House by Representative Davis.

The Dolliver-Davis bills on vocational education made some progress in Congress during the first half of 1910, but the Congress adjourned on June 25 without taking action on either. Speculation suggested that the bills might have had a good chance to pass despite certain criticisms. But on October 15 Senator Dolliver died, and vocational education was left without a champion in the Senate.

#### **Commission on National Aid to Vocational Education**

On January 20, 1914, the Congress approved a joint resolution authorizing the President to appoint a commission to study national aid for vocational education. The resolution provided that nine members of the commission report to the Congress not later than June 1, 1914. The commission organized on April 2, 1914, and elected Senator Hoke Smith of Georgia as chairman.

The other members were Senator Carroll S. Page of Vermont; Representative D.M. Hughes of Georgia; Representative S.D. Fess of Ohio; John A. Lapp, director, Indiana Bureau of Legislative Information; Florence M. Marshall, director, Manhattan Trade School, New York City; Agnes Nestor, president, International Glove Workers' Union, Chicago; Charles A. Prosser, secretary, National Society for the Promotion of Industrial Education, New York City; and Charles H. Winslow, special

agent, Bureau of Labor Statistics, Washington, D.C.

Individuals as well as representatives of national organizations and the various departments of the federal government submitted replies to the commission's questionnaire, both in person and by mail. (Captain Douglas MacArthur, destined for later fame in his role as general in World War II and Korea, was one of the respondents.)

In a relatively short period of time a tremendous amount of evidence was available for the commission to use in preparing its report to the Congress. The final report of the commission discussed the need for vocational education, the need for national grants to the states for vocational education, the kinds of vocational education that should be eligible for grants, aid to vocational education through federal agencies, the extent to which the national government should aid vocational education, the conditions under which grants for vocational education should be given, and proposed legislation.

The commission found that an urgent social and educational need for vocational education existed. National grants were necessary since the problem was too large to be worked out on a local basis; furthermore, the states varied widely in their resources to carry the cost of vocational education. The commission justified national grants on the basis of the interstate and national character of the problem and because they were in the interest of the general welfare of the nation.

The commission recommended that grants be given for the purpose of stimulating vocational education and for teacher training; for partial payment of the salaries of teachers, supervisors, and directors; and for the support of a federal board for making studies and investigations useful in vocational schools. The schools thus aided should be publicly supported and controlled and should be of less than college level.

In consideration of the total findings and recommendations of the commission, a proposal for legislation, including a draft of a bill for vocational education, was made a part of the final report.

#### **The Smith-Hughes Act in the Making**

*This section on the Smith-Hughes Act is reproduced from the History of Industrial Education in the United*



*Dudley M. Hughes*



States, as follows:

It was nearly a year and a half after the Commission on National Aid to Vocational Education reported to Congress before some positive action resulted. Then, on December 7, 1915, Senator Hoke Smith of Georgia introduced Senate Bill 703, entitled: "An Act to provide for the promotion of vocational education; to provide for cooperation with the States in the promotion of such education in agriculture and the trades and industries; to provide for cooperation with the States in the preparation of teachers of vocational subjects; and to appropriate money and regulate its expenditure."

The bill was read, referred to the Committee on Education and Labor, and printed in the *Congressional Record*. Thus began the odyssey of the Smith-Hughes bill.

On February 10, 1916, Representative Dudley M. Hughes of Georgia introduced House Bill 11250, which was read and referred to the House Committee on Education. Two days later the Hughes bill was reported back to the House without amendment, accompanied by House Report No. 181. In describing vocational education, the report reads as follows:

"It is especially designed to prepare workers for the more common occupations in which the great mass of our people find useful employment. As here used it means that form of education whose controlling purpose is to give training of a secondary grade to persons over 14 years of age for increased efficiency in useful employ-

ment in the trades and industries, in agriculture, in commerce and commercial pursuits, and in callings based upon a knowledge of home economics."

The report compared vocational education in the United States and Germany as follows:

"The American people have hardly begun the work of providing for the practical education of these millions of our wage workers. In this whole country there are fewer trade schools than are to be found in the little German kingdom of Bavaria, with a population not much greater than that of New York City. There are more workers being trained at public expense in the city of Munich alone than in all the larger cities of the United States, representing a population of more than 12,000,000. It is substantially true that practically every German citizen who could profit by it may receive vocational training for his life work in the schools and classes supported out of the public treasury."

The report indicated that the three sources of manpower waste—the involuntarily idle, the imperfectly employed, and the improperly employed—must be eliminated before increased production could begin. The authors of the House report felt that the aspirations of most young people were denied in an educational world that prepared only the few for college. The drop-out rate in the early years of schooling was deplored. Not only did students leave without an adequate general education, but they also

*The Smith-Hughes Act became effective July 1, 1917, and 16 days later the first Federal Board for Vocational Education was established. Charles A. Prosser, far right, was appointed director for the board in August. On the far left is E. Joseph Aronoff, board secretary, and the members from left to right, were Arthur E. Holder, James P. Munroe, Philander P. Claxton, William C. Redfield, David F. Houston, William B. Wilson, and Charles A. Greathouse.*

had no special training to fit them for work. It was stated that vocational courses would attract and hold students because they would be able to obtain suitable preparation for useful employment.

The cultural values of vocational education were recognized and deemed to be a valuable addition to the total general education of students. Observations were made concerning previous national grants and the contributions of these grants to the development of the nation. Proposed allotments to the states were described, and an outline of a future bill was suggested.

Senate Bill 703 was reported out of committee accompanied by Senate Report No. 97, a little more than a page in length.

"We commend to the consideration of the Senate the report of the Commission on National Aid to Vocational Education, which explains in detail the bill now reported, and gives reasons for its adoption. This report is so full that your committee deem it

unnecessary again to go into details upon the subject."

On April 20, 1916, Senator Smith called attention of the members of the Senate to the bill and asked that they give it careful consideration. On July 19, 1916, two amendments to the vocational bill were authorized upon the request of Senator Smith. On July 22, 1916, Senator Smith asked the Senate to go into a "Committee of the Whole on the State of the Union," to consider the vocational bill. Senator Page addressed the Senate at length on the provisions of the bill and the virtues of vocational education.

In the House of Representatives on July 29, 1916, Representative Hughes discussed the provisions of the Act for vocational education and then, in a fashion similar to that of Senator Page, presented at great length the arguments in support of the bill. On the last day of July the Senate considered minor amendments to the vocational bill. Discussion was brief, a few objections were made and withdrawn, and in the end the Senate passed the bill. At this point Senator Smith made a comment that provides a view into the general attitudes of Congressmen concerning the bill.

"The truth is, on this side [Democratic] my colleagues seem largely to have looked to me to work upon the bill, as I have been working on it for several years, and I know the Senators on the other side of the Chamber realize the splendid work that has been done with reference to this measure by the Senator from Vermont [Carroll S. Page] . . . The responsibility for the measure would have continued with him rather than to have fallen to me but for the change that took place in the organization of the Senate three years ago. With the Republican majority he was leading in the work and I was helping him. Since that time, as I am Chairman of the Committee on Education and Labor, the situation is reversed just a little, but I am always glad to stop at any time the opportunity is presented to give the Senator from Vermont every possible credit for his splendid work upon this subject, and almost to regret that we have a Democratic majority and that he has not charge of the bill instead of myself."

During the months that remained in the session of Congress, the House calendar was congested with problems largely connected with the war in Europe, so that final consideration of the bill was not possible.

In his message to Congress on December 5, 1916, President Woodrow Wilson called attention to the vocational education bill and urged action:

"At the last session of the Congress a bill was passed by the Senate which provides for the promotion of vocational and industrial education which is of vital importance to the whole country, for the critical years of economic development immediately ahead of us in a very large measure depend upon it. May I not urge its early and favorable consideration by the House of Representatives and its early enactment into law? It contains plans which affect all interests and all parts of the country and I am sure there is no legislation now pending before the Congress whose passage the country awaits with more thoughtful approval or greater impatience to see a great and admirable thing set in the way of being done."

Immediately thereafter the House took the bill under consideration again. In the days that followed there were long and frequent presentations by members of the House concerning the vocational education bill. Upon the conclusion of these presentations the Senate bill was read to the House. Mr. Hughes then moved that the House strike out the Senate bill and substitute the House bill. The motion was agreed to, and it was announced that this bill would be taken up on the second day of January.

On January 2, 1917, Representative Austin of Tennessee commented:

"Now I want to commend the gentleman of Georgia [Mr. Hughes] in charge of this bill. This measure, I am sure, is not all he would like to have it. He has had to contend with the Senate committee, and we have all been here long enough to know that in proposed legislation, where there is conflict of opinion, we must concede and compromise; but I want to commend him for his hard, efficient, and zealous work, and at the same time I want to say that the State of Georgia never committed a greater mistake than in not returning him to Congress. Had his reelection been submitted to a vote of this House, in my opinion there would not have been a dissenting voice. He would have been the choice of every Democratic and every Republican member. [Applause] While I have served in this House eight years, I would rather go out of it with my name as the author of a vocational education bill than anything else to my credit."

On the final days of discussion in the House fellow members took advantage of the concluding minutes of the debates to pay tribute to Mr. Hughes.

"While he will leave here on the 4th of March he will never be forgotten by the boys and girls of this great country, for he will by this bill erect to himself a monument more imperishable and enduring than any monument of brass or of marble. By being instrumental in securing the passage of this bill and putting it upon the statute book as a law of the land, he will have a monument in the minds and in the hearts of the present generation and generations yet to come."

The *Congressional Record* notes that these remarks were followed by Great Applause. Mr. Hughes acknowledged the tributes of the members of the House and then moved that the bill be reported to the House, with the recommendation that the amendments be agreed to and the bill passed. After a third reading the bill was passed.

Arthur E. Holder, as legislative chairman for the American Federation of Labor, followed the bill's progress and commented on the final discussions.

"During the debate in the House, members complimented and praised Mr. Hughes. On the final passage of the bill in the House, the members were so elated that they arose en masse and vigorously applauded. Never at any time was any allusion made to political party credits in debate. We are proud of the fact that this great educational humanitarian measure passed Congress by almost unanimous vote without any partisan claims or antagonism."

The differences that remained between the Senate and House bills were resolved, final legislative action was completed on February 17, and the bill was sent to the President. On February 23, 1917, President Wilson sent a message to the Senate announcing that he had on that day signed Senate Bill 703, the vocational education bill.

The National Society for the Promotion of Industrial Education was conducting its tenth annual convention at Indianapolis, February 21-24, 1917. News of the signing was sent to the convention by wire from Washington. The dramatic announcement of the event was received with equal drama. Charles W. Sylvester, longtime treasurer of the American Vocational Association, was able to recall that

"pandemonium broke loose." The Society had achieved its first major goal. (Melvin L. Barlow, *History of Industrial Education in the United States*. Chas. A. Bennett Co., Peoria, 1967, pp. 61-65.)

### The Federal Board for Vocational Education

The vocational education bill was effective on July 1, 1917. The Smith-Hughes Act is a plan of cooperation between the federal government and the various states for the payment of salaries of teachers of vocational subjects and for the training of such teachers. To administer the provisions of the act, a Federal Board for Vocational Education was created. The members of the board consisted of the Secretary of Commerce, the Secretary of Agriculture, the Secretary of Labor, the Commissioner of Education, and three citizens appointed by the President. One of the citizens was to be representative of manufacturing and commercial interests, one representative of agricultural interests, and one representative of labor.

The Federal Board for Vocational Education was required to make reports, studies, and investigations of the various fields of vocational education. The board distributed the money and determined the extent to which the states were using the money. The state through its legislature was required to designate or appoint a state board for vocational education. The state board was required to prepare a plan, to be approved by the Federal Board, showing the kinds of programs and the details of operation of the programs for the state.

The state treasurer was to be designated as the custodian of the funds, and for each dollar of federal money appropriated to the state or community or both, was required to match the appropriation. The act provided an appropriation of \$1,700,000 for the year 1917-1918, to be distributed on a population basis as required by the several provisions of the act. The amount of the grant was to increase in regular intervals until the maximum appropriation of \$7,200,000 would be reached for the year 1925-1916.

On July 17, 1917, the President appointed the three members of the federal board as follows: James P. Munroe, representing manufacturing and commerce; Charles A. Greathouse, agriculture; and Arthur E. Holder, labor. The appointed members, together with the Secretaries of Labor (William B. Wilson),

Commerce (William C. Redfield), and Agriculture (David F. Houston) and Commissioner of Education Philander P. Claxton, comprised the board.

The board held its first meeting on July 21, 1917. On August 15, Charles A. Prosser was appointed Director for the Board, and assistant directors were chosen for each major field of vocational education.

"The Smith-Hughes Act represented a scheme of cooperation between the federal government and the individual states. The Act had made provisions for this cooperative arrangement to extend to the fields of agriculture, home economics, and the trades and industries. The cooperative arrangement was based upon four fundamental ideas:

'First, that vocational education being essential to the national welfare, it is a function of the National Government to stimulate the States to undertake this new and needed form of service; second, the Federal funds are necessary in order to equalize the burden of carrying on the work among the States; third, that since the Federal Government is vitally interested in the success of vocational education, it should, so to speak, purchase a degree of participation in this work; and fourth, that only by creating such a relationship between the central and the local Governments can proper standards of educational efficiency be set up.'

"A conference with representatives of the states was held by the Federal Board during the period August 17-28, 1917. The purposes and general principles of the law were discussed with each representative. It was imperative that the states understand clearly the fundamentals involved. A stenographic record of each discussion was given to the representative so that both the Board and the state would know precisely the agreements which had been reached.

"It was obvious that Prosser wanted to be of real assistance to the states as plans were prepared, but at the same time the Board made no attempt to control the nature of the plan. It was the Board's opinion that each plan should reflect the unique problems and practices of the state concerned and should not become difficult to administer because of a burden imposed by the federal group." (Barlow)

### The Third Fifty Years

The forces of vocational education began to bend into focus during the

last quarter of the nineteenth century, and during the first quarter of the twentieth century the image of vocational education took shape and then cast a clear picture of the vocational education program of the nation. There was no real way to hurry up the development of vocational education—its roots and branches had to be well developed before it could produce fruit.

The manual training movement was most significant in the development of vocational education because it brought clearly to view the imperative needs of the masses of secondary school youth. The trade school movement focused upon the plight of youth and adults whom the educational system had ignored—and their vocational preparation was essential to the forward march of the national economy.

The home economics movement brought clearly to the American public the educational and occupational needs of women, in the home and in the labor market. A growing nation had to be fed and Congress was attentive to new forms of education to ease the burden of producing the agricultural necessities for the nation.

It was Governor Douglas of Massachusetts who brought the forces of vocational education together by insisting upon a comprehensive review of the educational system in relation to the vocational needs of the commonwealth. This in turn sparked the formation of the National Society for the Promotion of Industrial Education and spurred the Society on its 11-year quest to secure federal aid for vocational education. Few areas of education have had such a thorough review of all their elements before becoming a recognized branch of the instructional process. The leadership of NSPIE from 1906 to 1917 was representative of a cross section of American life and consisted of dedicated American citizens who, through a powerful professional association, could awaken the Congress and the public to a realization of a great social and educational need.

The Congress responded by almost unanimous consent in passing the Smith-Hughes Act, and after the first efforts of vocational education in World War I, vocational education turned to its primary mission of preparing people for work. By 1926, vocational education was beginning to make its mark upon the educational purposes of the nation.